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RICHARD C. MILLER

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MAY, 1948 VOLUME 22, NUMBER 5

Ideas for Your Darkroom . . . . . By David Macfie 44
Fun with Bas-Relief . . . . . By Ira S. Glick 48
Add That "Plus" to Your Pictures . . . . . By C. Court Treatt 51
Beginner's Guide to Darkroom Technique . . . By David Nelson 54
Portrait of a Home . . . . . By Joseph Foldes 56
In a Merry Photomobile . . . . . By Violet Witt 59
Hazards of the Cellar Darkroom . . . . . By Eric Wahleen 79
Floating Lids for Your Film Tanks . . . . By Dorothy Hamilton 80
Fitting the Negative to the Paper . . . By James E. Martenhoff 82
Making an Etching Knife . . . . . By William K. Boylan 83
Pictures from Readers 84
An Easily Built Interval Timer . . . . . By William M. Carson 86
POPULAR PHOTOGRAPHY 1948 PICTURE CONTEST . . . 114
Amateur Movie Section 117
Foresight in Filming . . . . . By George Carlson 117
Tray and Tank Development of Movie Titles . . By Jay A. Smith 118
From Hen House to Color Lab . . . . . By Dick Bartlett 172

◀DARKROOM PICTURES 60-74

The photographs which appear in this month's picture section prove that the negative in photography is only a means to an end, not the end in itself. These pictures have been modified by creative techniques and made into odd, imaginative prints.

Press 16
The Magazines 16
Popko 28
Candid Shots by the Editor 40
Trade Notes and News 88
Ward Pease Discusses Your Second Camera 90
Draw with Developer 94
Notes on the Picture Section . . . 104
New Home Movies 120
Home Movie Notes 130
In and Out of Focus 134
Letter from London 152
New Books 168
From Hen House to Color Lab . . 172
Popular Photography's Traveling Salons 175
Calendar of Photographic Exhibitions 176
Milwaukee Madness 184
Camera Clubs 188
Contests and Markets 196

COVER BY RICHARD C. MILLER. SEE PAGE 108.

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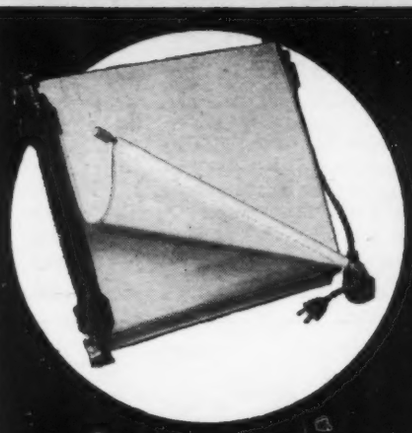

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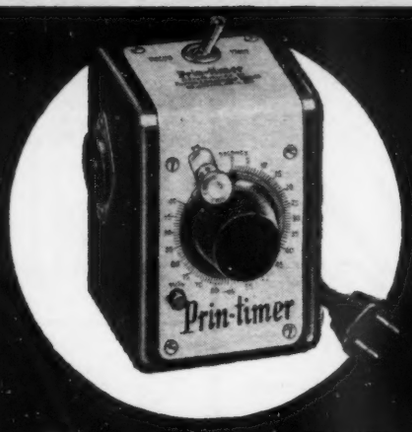

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- Cheaper! Better! Stronger! Smaller!
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IT'S Kent FOR Quality

Kent JR. DEVELOPING KIT

- Complete kit for beginners
- Contains: 3 trays, metal print frame, SS tongs, funnel, safe-light, paper, MQ fixing powder, film clips, set of print masks, stirring rod, instruction book.

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- Ideal for photographic gifts.
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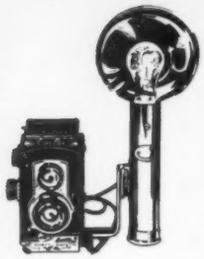

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A twin-lens reflex camera that gives you a print-size view of the picture before it's taken. Compact, all metal. Equipped with F3.5 Wollensak Velostigmat lens. Takes pictures 2¼" x 2¼". With Alphax Shutter speeds 1/10th to 1/200th **$76.98**
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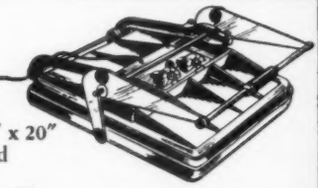

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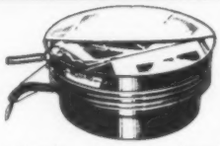

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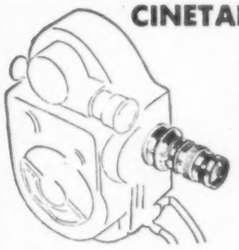

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For 8MM Cameras

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1. Full coverage, with no vignetting, at ALL STOPS.
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7. Looks right—same size as camera lens.

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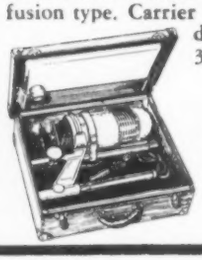

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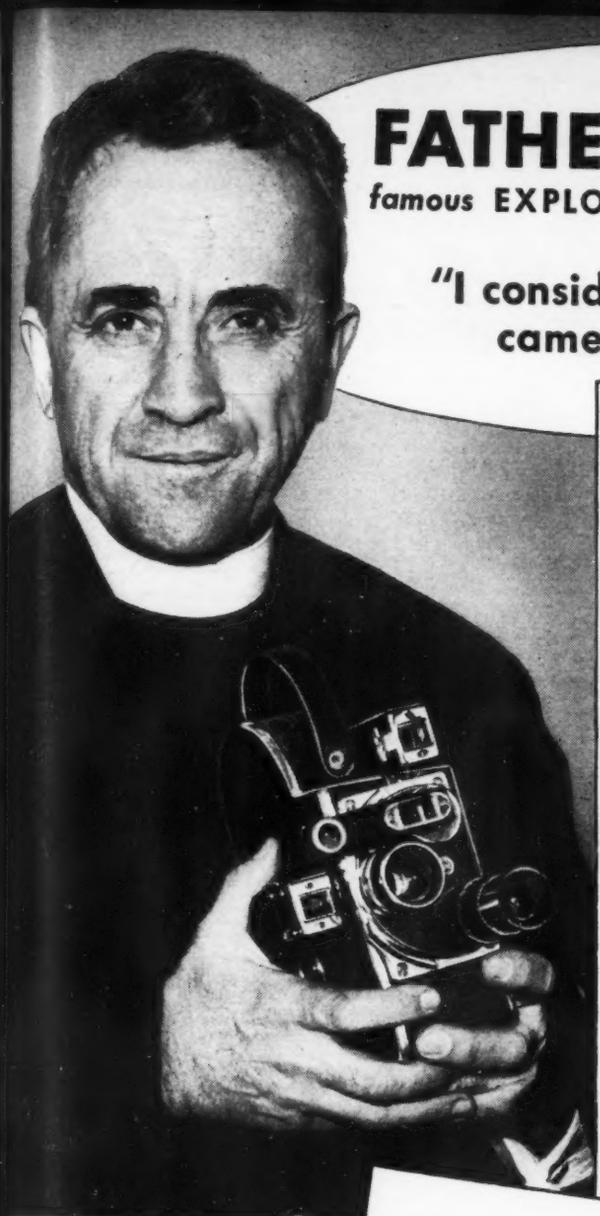

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The dust and heat of Egypt, Palestine, Lebanon and Iraq did not impair it; the humid heat of India, Ceylon, and the Philippines produced no effect on the water like mechanism; the dust of north China, the cold of Japan, and finally the excessive humidity of the tropical islands, now in this last lap of the journey find my original Bolex functioning perfectly.

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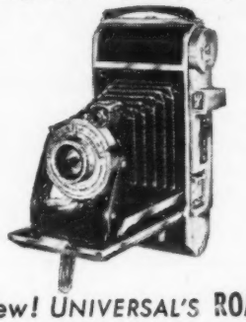

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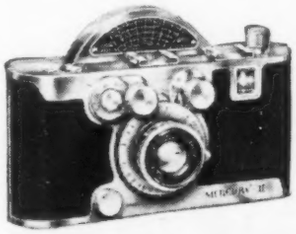

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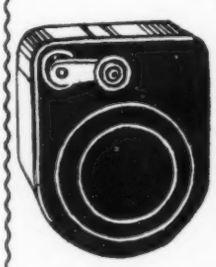

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80mm **SCHNEIDER XENON**, F2, Coated, LN	252.50
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Please write for Special listing of lenses for the Connoisseur.

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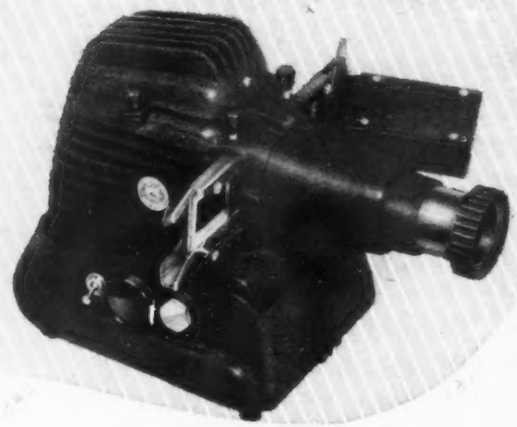

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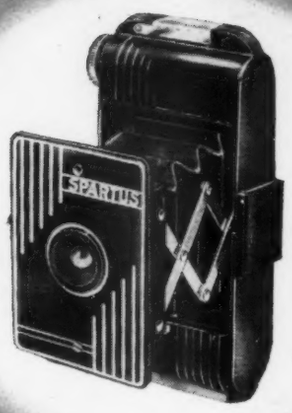

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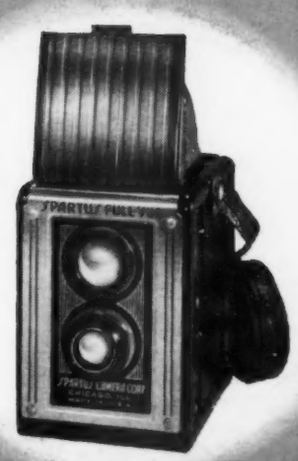

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PRESS WASTE

By A. J. Ezickson

A PHOTOGRAPHER'S ingenuity helped John Crivelli, cameraman for the *Paterson Evening News*, take what may be an outstanding photograph. Assigned to take pictures of a 15-year-old boy whose right hand was impaled on a pointed spike, Crivelli arrived on the

John Crivelli took this on-the-spot news picture for the Paterson Evening News. The hand of the 15-year-old youth, Joseph Gondola, was impaled on the fence.

scene to take two routine pictures. As he was prepared to take a third picture, the rangefinder broke loose from his camera. He hurriedly made emergency repairs just in time to take the picture of an interne trying to free the boy's hand as the boy grimaced with pain. The boy is Joseph Gondola, of Paterson. He was walking to work on the morning of January 8 when his brace encased legs slipped on the ice. He reached for a nearby fence and his ring finger of the right hand became impaled on the spike. The spike was sawed off and was removed from the hand at a hospital.

COOPERATION between police officials and the working press photographers can have but one good result: the establishment of good will. This was illustrated recently when Deputy Chief Inspector William T. Whalen, commanding officer of the detective forces in the borough of Brooklyn, N. Y., did everything possible to help the lensmen in a big news break. A nine year old child, Margaret Simpson, had disappeared from her home in an isolated area on the outskirts of Brooklyn. Chief Whalen was in charge of the systematic search in which 500 war veterans, a helicopter, and two Coast Guard cutters joined. The missing girl was found 22 hours later among the tombstones in Evergreen cemetery, six miles from her home. A dozen New York and Brooklyn news photographers were on the assignment. The girl was found at a time when both morning and afternoon representatives were close to their deadlines. The cameramen were waiting at the girl's home when word of her recovery was received. The photographers grabbed their cases and equipment and ran for their automobiles, planning to speed the six miles over snow-blocked roads to the cemetery where the girl was found. Cameramen Jess Strait of the *New York Daily Mirror* and Paul Bernius of the *New York Daily News* approached Chief Whalen, telling him they understood the girl had been found and she was either at Evergreen cemetery or the Wilson Avenue police station located in the area. "That is correct," replied the affable Chief Inspector, "but why don't you fellows wait here instead of making that trip. I am having the girl brought here." About 20 minutes later the girl was brought home. Chief Whalen then permitted the cameramen to make pictures of the girl being reunited with her broken-hearted mother before he started the task of questioning the girl in an effort to learn where she had been during the time she was missing. The pictures were made and rushed to the various offices in time for the editions. It was indeed a splendid demonstration of cooperation between a high police official and the press photographers of New York City.

* * *

THE Toledo Museum of Art, sixth largest in the nation from attendance standpoint, selected some 60 news pictures by photographers of the *Toledo Blade* and the *Toledo Times* for exhibition recently in one of its temporary galleries. For two years the Block newspapers each week have selected what they consider to be the outstanding local

Inspiration for The Toledo Blade-Times photographers' invasion of Toledo's famous Art Museum was the group of "Pictures of the Week" which the Blade displays like this in its building lobby.

news picture for a display in the downstairs lobby of the Blade Building as "The Picture of the Week." The majority of the Museum staff's selections were from this group and included all types of news photography from spot news shots to

(*Continued on page* 161)

The MAGAZINES

By A. R. Sutherland, Jr.

Executive Secretary of the American Society of Magazine Photographers

APOLOGY AND RESTATEMENT. We've been told many times never to start off with an apology, but this time it's necessary. There's been a mistake, you see, and it should be corrected right away. Briefly, it's this: A few issues back, this column announced that the American Society of Magazine Photographers was opening its rolls to applicants for associate memberships. This

Readers of this column will remember the item (February 1948 issue, page 162) concerning Jerry Cooke, who was taking pictures of the Richmond, Va., two-branched city council. It seems that a temporary deadlock developed when Cooke wanted to photograph all members of the two branches at the same time. (Some members of each branch didn't particularly care to have their pictures taken with the other chamber.) Finally some one proposed that Miss Irene Saint, Cooke's researcher, say a few words. She did . . . and aldermen smoothed their hair, quietly got into their places, and posed for thirty minutes. Let us then introduce to you the girl who turned the diplomatic trick—Irene Saint, who is looking at a magazine (you do know which magazine) with Paul Sullivan of West Roxbury, Conn.

was not exactly the case. The announcement was premature. As the matter now stands, the Society's members are voting on the amendment to the constitution this move requires. We ought to be able to state the results by next month, but as yet no decision has been reached. So, on behalf of the Society, we extend apologies for the inconvenience caused those of you who wrote in—we've already answered your kind inquiries—and for the misinformation that was published.

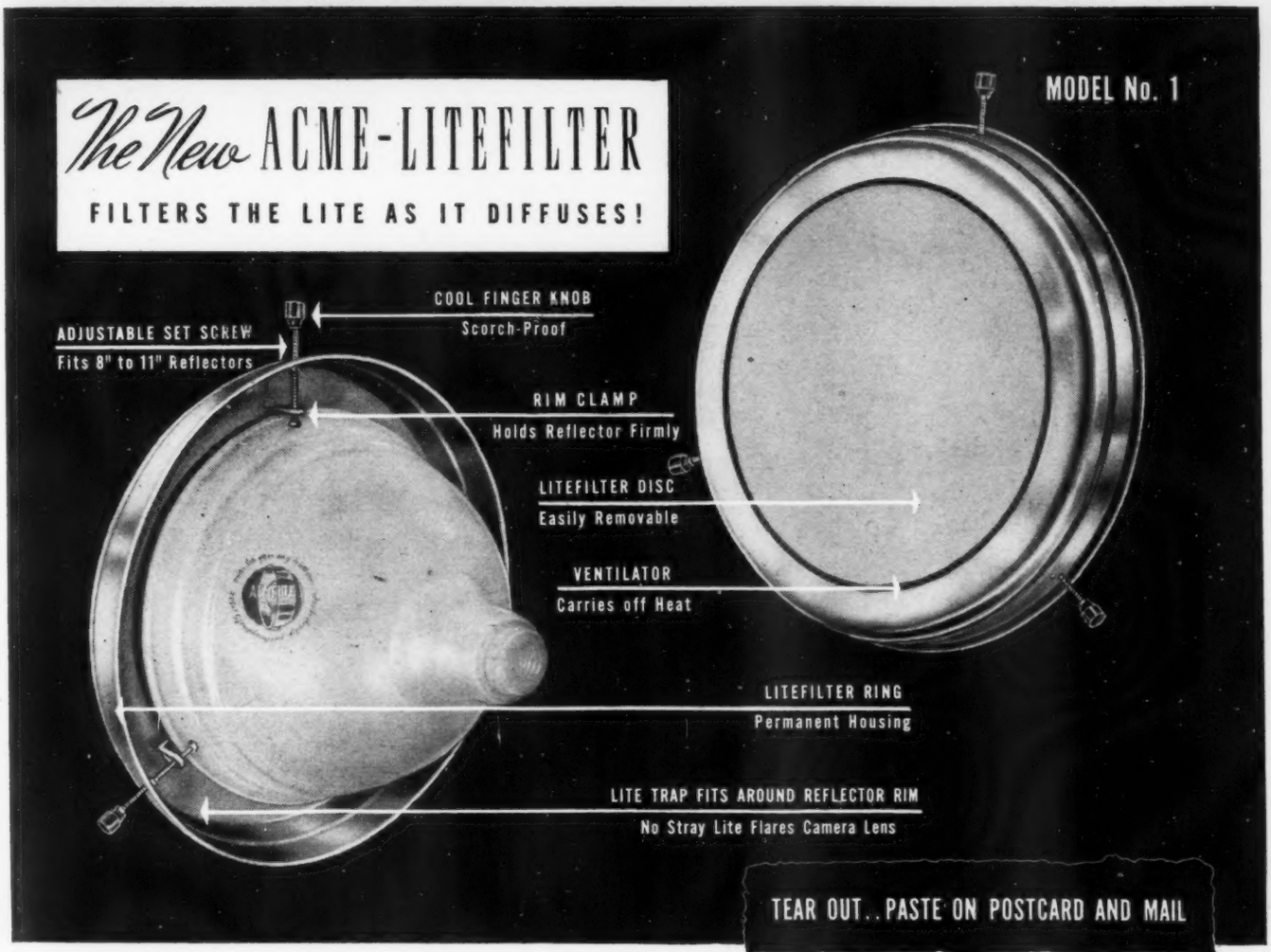
* * *

Pocket with a zipper on top. Herewith a squib about WEEGEE, the man who specializes in photography of the soul. This is the sort of thing, too, that could only happen to Weegee. He got someone else's suit from the cleaners the other day and after trying it on and finding it wouldn't fit, took it back and de-

(*Continued on page* 96)

The New ACME-LITEFILTER

FILTERS THE LITE AS IT DIFFUSES!



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Light enough for hand-held ground shooting. Lens alone is worth over 200.00! With 10" f4.5 Kodak Lens, Filter and Case.

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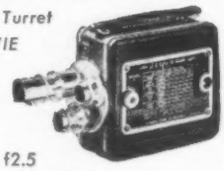

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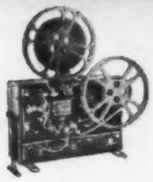

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35mm CAMERAS

ZEISS SUPER NETTEL, f3.5 Tessar, coupled exc.	$99.50
KODAK RETINA II, f2 Xenon case, LN	139.50
CONTAX I, f2 Sonnar, Exc.	149.50
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CONTAX III, f2 Sonnar, LN	295.00
LEICA 3C, f2 Summitar, LN	295.00
LEICA 3C, f2 Summar, LN	275.00
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LEICA 3B, f2 Summitar, Exc.	285.00
LEICA F, f3.5 Elmar, LN	165.00
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LEICA G, f2 Summar, LN	225.00
LEICA D, f2.5 Hektor, LN	139.50
LEICA D, f2 Summar, good	159.50
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TENAX I, f3.5 Zeiss, exc.	37.50
ZEISS IKONTA 35, f3.5 case, New	93.90
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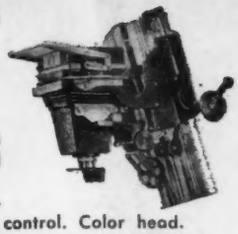

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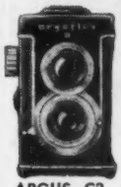

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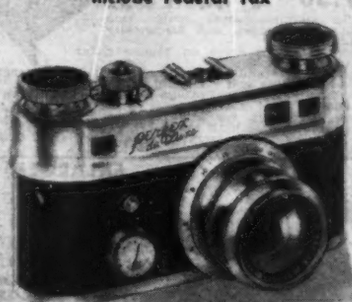

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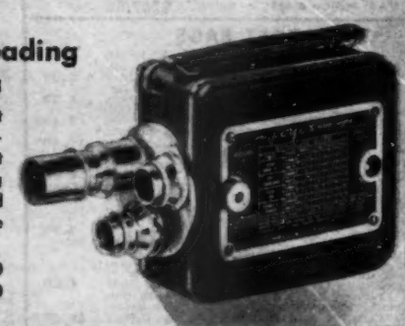

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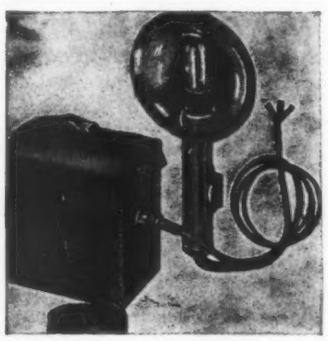

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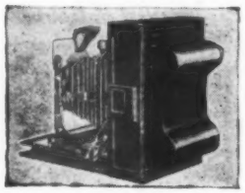

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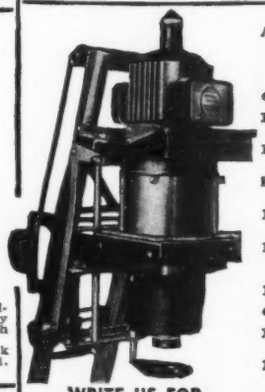

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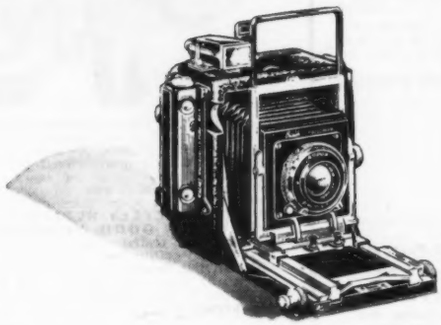

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To Translate Millimeter measurements: 25.4 mm. equals one inch.

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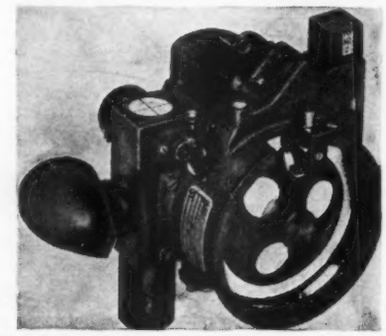

These Army Air Forces Bubble Sextants cost the Govt. about $125 each. A real bargain at our price of $12.50! Included with Bubble Sextant shipment is wooden Carrying Case, 5 spare waxed paper discs, flashlight with rheostat for night use (uses ordinary flashlight cells—not furnished) aux. 2-power Galilean Telescope Allen wrench, 1 spare marking point. Wartime use, **BUT COMPLETELY REPAIRED, COLLIMATED AND PUT IN GOOD WORKING ORDER.** Light bulb has been tested—Bubble is in working condition. Because of wartime use, we make this guarantee: if not satisfied that Sextant is exactly as represented, return within 10 days and money will be refunded. Full directions for use accompany each shipment.
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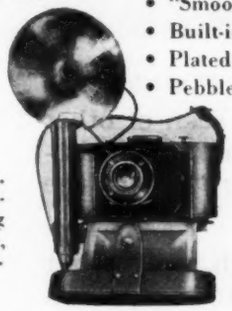

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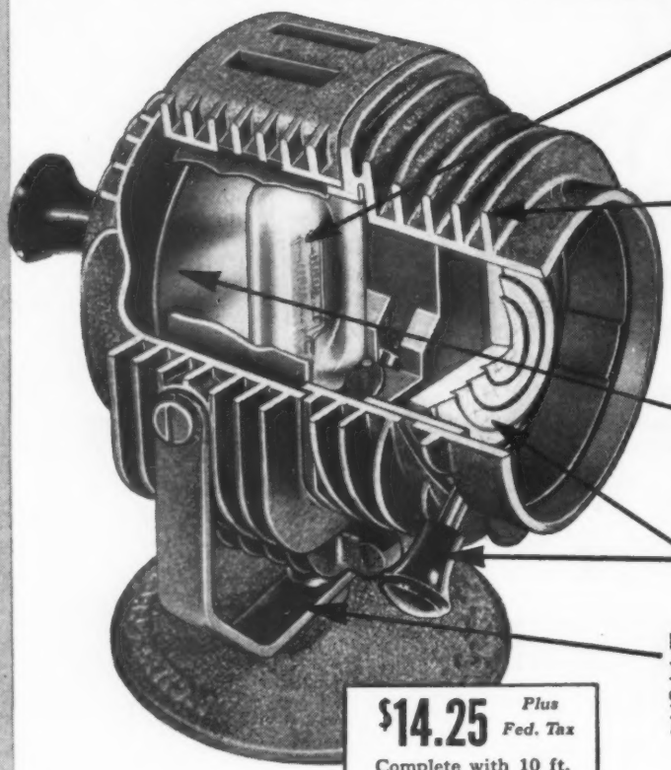

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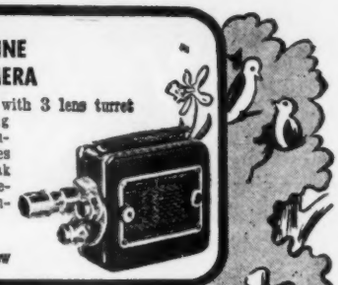

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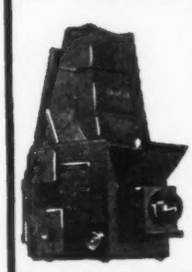

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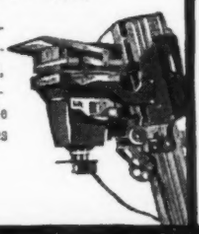

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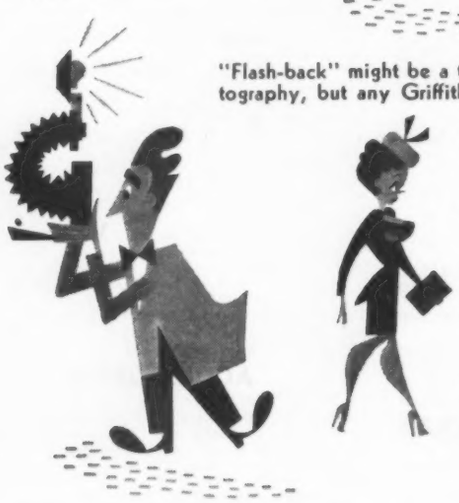
PIX-QUIZ

Here's another of Popko's inimitable photographic puzzles, guaranteed to amuse, if not confuse you. Sharpen up a pencil, summon your wits, and hit the deck. Place a check mark in the square before the answer you feel most like to the right one, and when you've finished, turn to page 92 to learn the correct ones. We hope yours and those match. To score your work—one right is just above average to good, two right is good to excellent, and three right puts you at the head of your class.

"P.O.P." could very well stand for "Persecution of Photographers"—but you will recognize it as meaning

- ☐ 1. "Pass olives, please."
- ☐ 2. Photographers of the Press
- ☐ 3. Politicians of Pennsylvania.
- ☐ 4. Pirates of Penzance.
- ☐ 5. Printing Out Paper.

Submitted by E. Solomon, Poona, India.



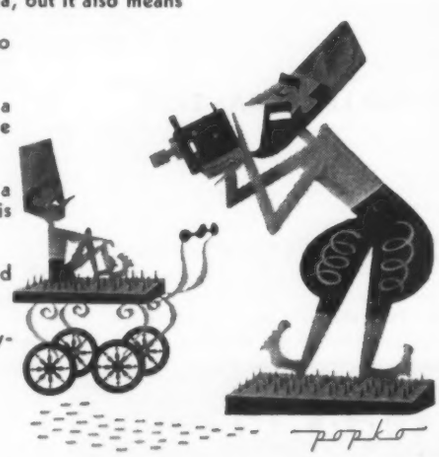
"Flash-back" might be a technique used in flash photography, but any Griffith fan will identify it as

- ☐ 1. an All American quarterback star.
- ☐ 2. a method of editing film so as to show an earlier scene to clarify action.
- ☐ 3. a low budget movie completed in three weeks.
- ☐ 4. artificial sound produced by defective sound recording equipment.

Submitted by Robert Wallis, Sunmount, N.Y.

Perhaps "Pinhole Exposure" does refer to a type of photographic procedure in India, but it also means

- ☐ 1. a variety of peek-a-boo blouse.
- ☐ 2. flecks of light cast on a negative by leaks in the camera bellows.
- ☐ 3. an exposure taken with a camera when a pinhole is used as the lens.
- ☐ 4. a dodging technique used in enlarging.
- ☐ 5. shooting through a keyhole..



Submitted by I. C. Adams, Calistoga, Calif.

World Coverage is PSA Portfolio Aim

Worldwide exchange of photographic print exhibits, which has been inaugurated by an exchange between the League of Netherlands Amateur Photographers' Societies of Holland, and the Chicago Area Camera Clubs Association of Chicago, has been organized by the Pictorial Division of the Photographic Society of America. These traveling international shows are known as the PSA International Portfolio Exhibits. Full details may be obtained from Mrs. Sylvia Sminkey, 1626 Juneway Terrace, Chicago 26, Illinois. This new activity, developed as a result of requests from foreign amateurs, will make possible an international exchange of photographic exhibits by American and foreign photographic organizations, camera clubs, and camera club associations.

A new medium for providing a method of exchange of ideas and methods, and techniques utilized in medical photography has been established by the PSA. This is the establishment of a PSA Medical Photographic Portfolio project. Its secretary is Don Loving, FPSA, of 1309 North Pennsylvania Street, Indianapolis 2, Indiana, from whom entry blanks and detailed information can be obtained. These medical portfolios will be limited to ten participating members in each Circle, with membership restricted to doctors, medical or scientific technicians, medical illustrators, or others consistently engaged in producing photographs of medical, clinical biological, or bacteriological nature. Memberships in PSA and PSA Pictorial Division are obligatory.

Winners in groups A and B of the 1946-1947 Continental Print Contest of the Photographic Society of America have been announced, Group A winner is the Fort Dearborn Camera Club of Chicago, group B winner is the Camera Guild of Cleveland, Ohio. California Camera Club of San Francisco was runner-up in group A, while the Camera Club of Providence Engineering Society, Providence, Rhode Island, placed second in group B. The 1947-1948 Continental Print Contest is already underway, with judgings scheduled for Baltimore, Md., Los Angeles, Calif., Detroit, Mich., New York, N.Y., and St. Louis, Missouri.

This year the Pictorial Division of the PSA will give recognition to those people who work to popularize the Division. Distinguished Service Medals will be awarded to those who sign up the most new members between January 1st and September 30th, 1948. One point will be awarded for each new prospect who is a member of the PSA, but not of the Pictorial Division. Three points will be credited to those who obtain members who are new to both PSA and the Pictorial Division. Renewals of membership will not count except where the membership had lapsed prior to 1947. One winner will be selected from each state, and one from Canada, with members of the Pictorial Committee and PSA Membership Committee not eligible for awards.

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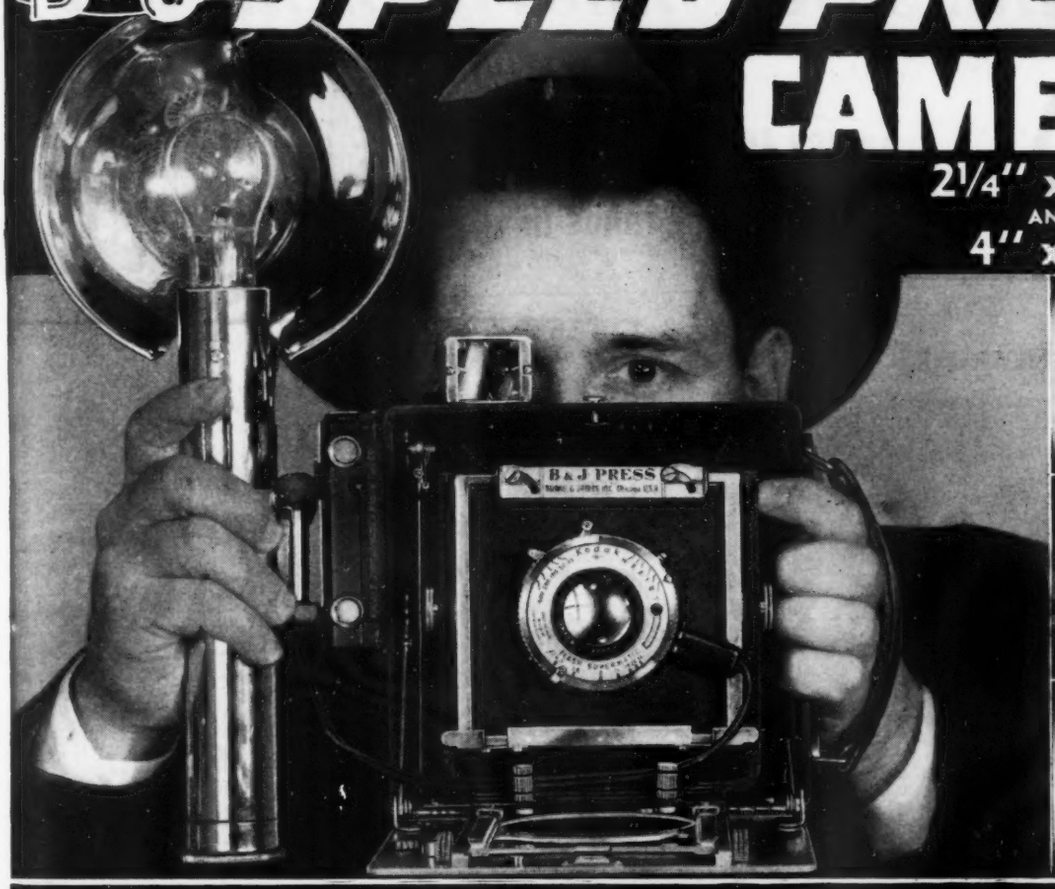

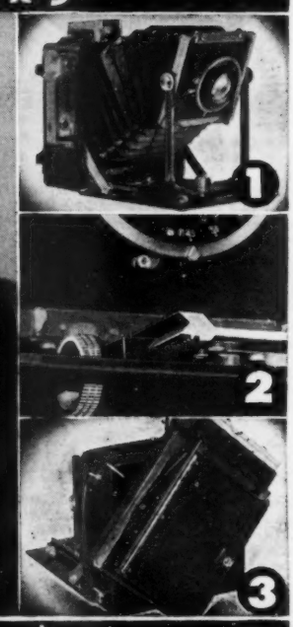

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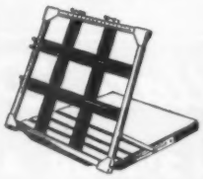

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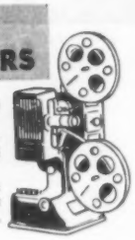

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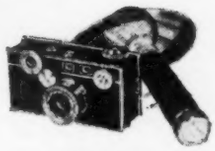

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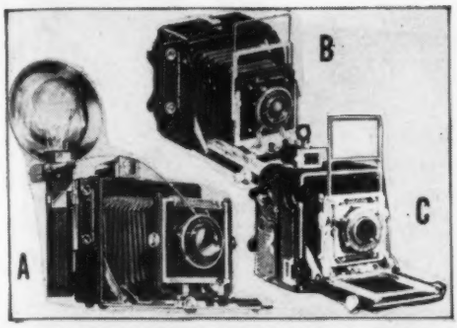

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35mm CAMERAS

E - New Model Perfex 1-0-1 Outfit—F/4.5 coated lens in Alphax Shutter, rangefinder. $39.99 —$5.00 DOWN
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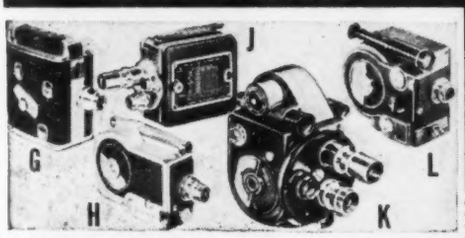
F - Argus C 3 Outfit—Rangefinder, synchronized flash unit, carrying case and F/3.5 coated lens—$74.71—$7.47 DOWN

D - Clarus Outfit — F/2.8 Wollensak coated lens, case and flash unit—$134.08 — $13.40 DOWN

MOVIE CAMERAS



G - Briskin Magazine 8mm With F/2.5 coated lens, $79.50—$7.95 DOWN
With F/1.9 coated lens, in foc. mt., $108.50—$10.85 DOWN

L - Revere Magazine 8mm With F/2.8 B. & L. coated lens—$127.50—$12.75 DOWN

Revere "88" 8mm With F/2.5 coated lens —$77.50—$7.75 DOWN

K - Revere "99" 8mm Turret With F/2.8 B. & L. coated lens in foc. mt., $110.00—$11.00 DOWN

J - Perfex Magazine Turret 8mm L.N F/2.5 coated lens — $69.50 — $6.95 DOWN

H - Revere 16mm Magazine With F/2.5 coated lens, $127.50—$12.75 DOWN
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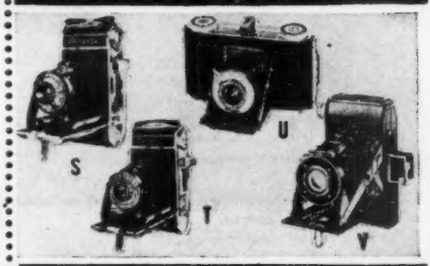

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Flash Unit for Roamers—$7.30

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(V) MONTE CARLO SPECIAL with F/3.5 lens, autocal self-timer. $63.75—$7.73 DOWN

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N- Ciroflex — Rapax Shutter —$99.45—$9.94 DOWN

M-Argoflex with carrying case—$69.63 — $6.96 DOWN

MOVIE CAMERAS

(W) Eastman CINE KODAK 8MM MAGAZINE with F/1.9 lens in quick change mount—$145.83—$14.58 DOWN

(X) Eastman CINE KODAK 16MM MAGAZINE with F/1.9 lens in quick change mount—$195.00—$19.50 DOWN

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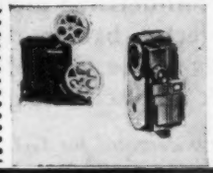

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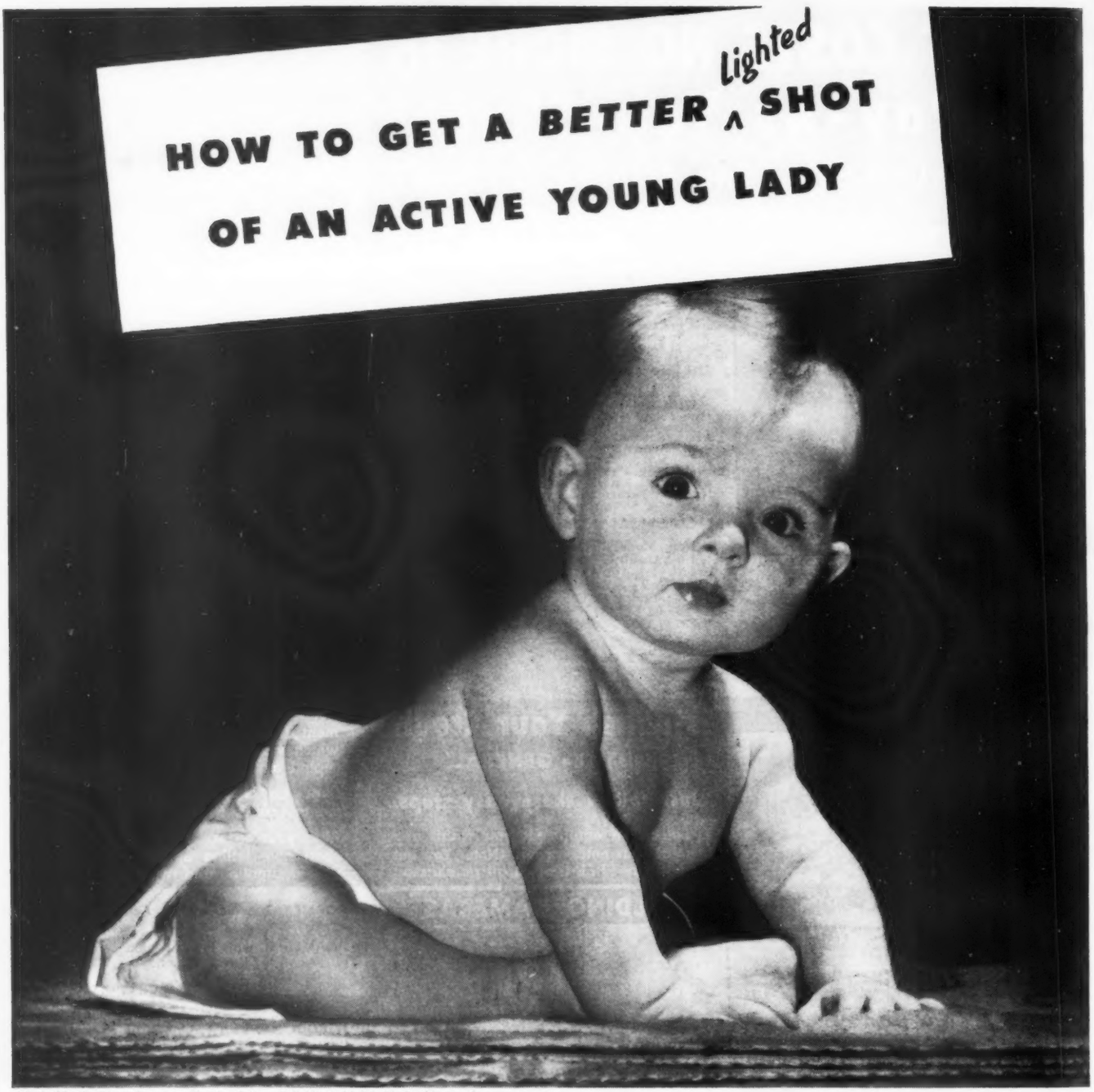

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ANSCO Reflex, f3.5..... 195.00
KEYSTONE R-8 Proj., 500W, 8mm..... 64.50
REVERE "85" Deluxe 8mm..... 95.00
B & H "8" Proj., Picture Master..... 197.50
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35MM CAMERAS

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ROBOT II-L f2 Biotar, $97.50; f2.8..... 87.50
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KODAK Ektra, f1.9, f3.3 35mm w.a., close range view-finder, list $691.83..... 450.00
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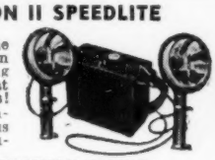

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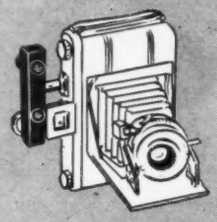
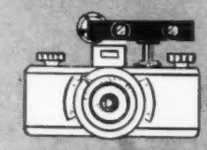
SPECIAL HEIGHT ADAPTER FOR ARGUS MARK 21 **$ .50**

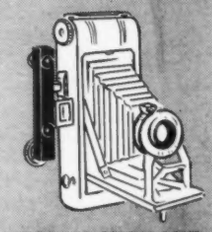
ARGUS MARK 21



KODAK MONITOR



KODAK 35



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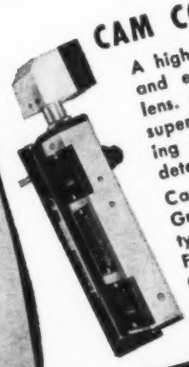

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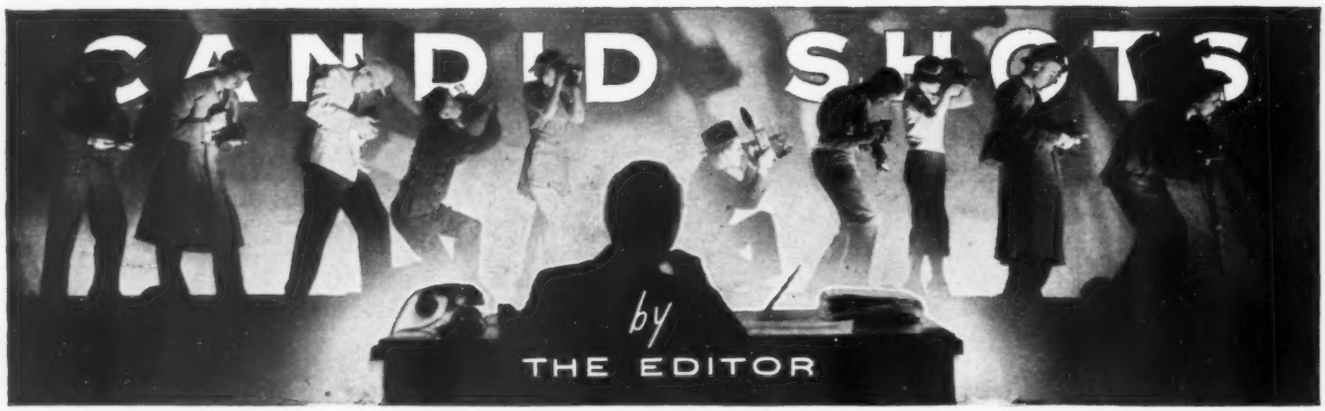

THERE'S been plenty of added activity around the shop for the past few weeks as entries for the big POPULAR PHOTOGRAPHY 1948 Picture Contest have been pouring in from all parts of the country Black-and-white and color prints—large and small, mounted and unmounted—and color transparencies of all sizes have been piling up as each day's mail gets bigger and bigger. All entries which were received before midnight on April 1st were eligible for the First Monthly Awards, and the judging will be in progress by the time this column is in your hands. Award winners will be announced in the August issue Remember, though, that all entries judged for the special awards also are eligible for prizes in the final competition, so you have two chances to win.

If you have not yet entered your best color and black-and-white pictures in the contest there's still time. Elsewhere in this issue you will find full details—the list of prizes offered for color and black-and-white, contest rules, and entry blanks. You can obtain additional entry forms from your photo dealer, finisher, or the Contest Editor of POPULAR PHOTOGRAPHY (if request is accompanied by a stamped and self-addressed envelope). There are still three chances left to win one or more of the big Monthly Awards in addition to prizes in the final competition, so get your entry ready and mail it in as soon as possible.

IN THE February issue we devoted a part of this page to the suggestion that youngsters who show a serious interest in pictures should be allowed to have a camera and the chance to record things as they see them. Among the many interesting responses the idea has brought forth is a letter from Mrs. H D. Robertson of Uvalde, Texas, who adds a thought that we think is worth passing along. She says, "So many of my relatives, friends, and acquaintances think of my hobby of photography as most expensive—in fact, too expensive a hobby for their sons and daughters and one which they discourage for that reason. The money I have spent on photography during my life since I was fourteen years old (I'm in the forties now) is no more than many an ambitious mother has spent on her daughter or son for music or dancing lessons for which the recipient had no real talent. I know—it was the style during my adolescence to take piano lessons, to which I was subjected for seven uninterested years.

"Parents who stop to consider the idea will realize that encouraging the youngster's interest in photography may develop a latent creative ability that is more likely to pay dividends later in life in the form of wholesome recreation or even extra spending money. My camera has been the means of my meeting many interesting persons whom I never would have known otherwise."

CONGRATULATIONS to Howard P. Thompson of Monticello, New York, whose fifty years in the profession of photography recently was marked by the Monticello *Republican Watchman* with a story devoted to his career An amateur at fifteen years of age, Thompson's first camera was one made by Robert Ingersoll and cost one dollar—the same as Ingersoll's famed watch. It held only one 2¼x2¼ plate and had to be loaded in a dark closet.

Educated to be an architect, Thompson practiced photography on the side and eventually opened his own studio. He was "burned out" twice by fires—in 1909 and 1942. Among the many interesting highlights in his career is the fact that he was the first to use a 1000-watt incandescent lamp for picture-making, having somehow obtained one of the lamps in 1912 before they were placed on the market. As a result of this achievement, Edison & Company, makers of the lamp, presented him with additional bulbs which he installed under his skylight, making his studio the first to be able to take large groups and portraits at night without flash powder. We hope Howard Thompson will enjoy many more interesting and fruitful years in the profession which he has helped to pioneer.

POPULAR PHOTOGRAPHY FRANK ADAMS

"You gotta admit my kitchen darkroom has one big advantage over your basement setup!"

Due to typesetting difficulties in Chicago and elsewhere this issue reaches you later than usual. We're sorry about the delay, and anticipate an early return to our normal schedule. Your understanding and indulgence is appreciated.

Frank Fenner, Jr.

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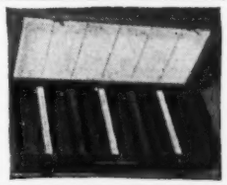

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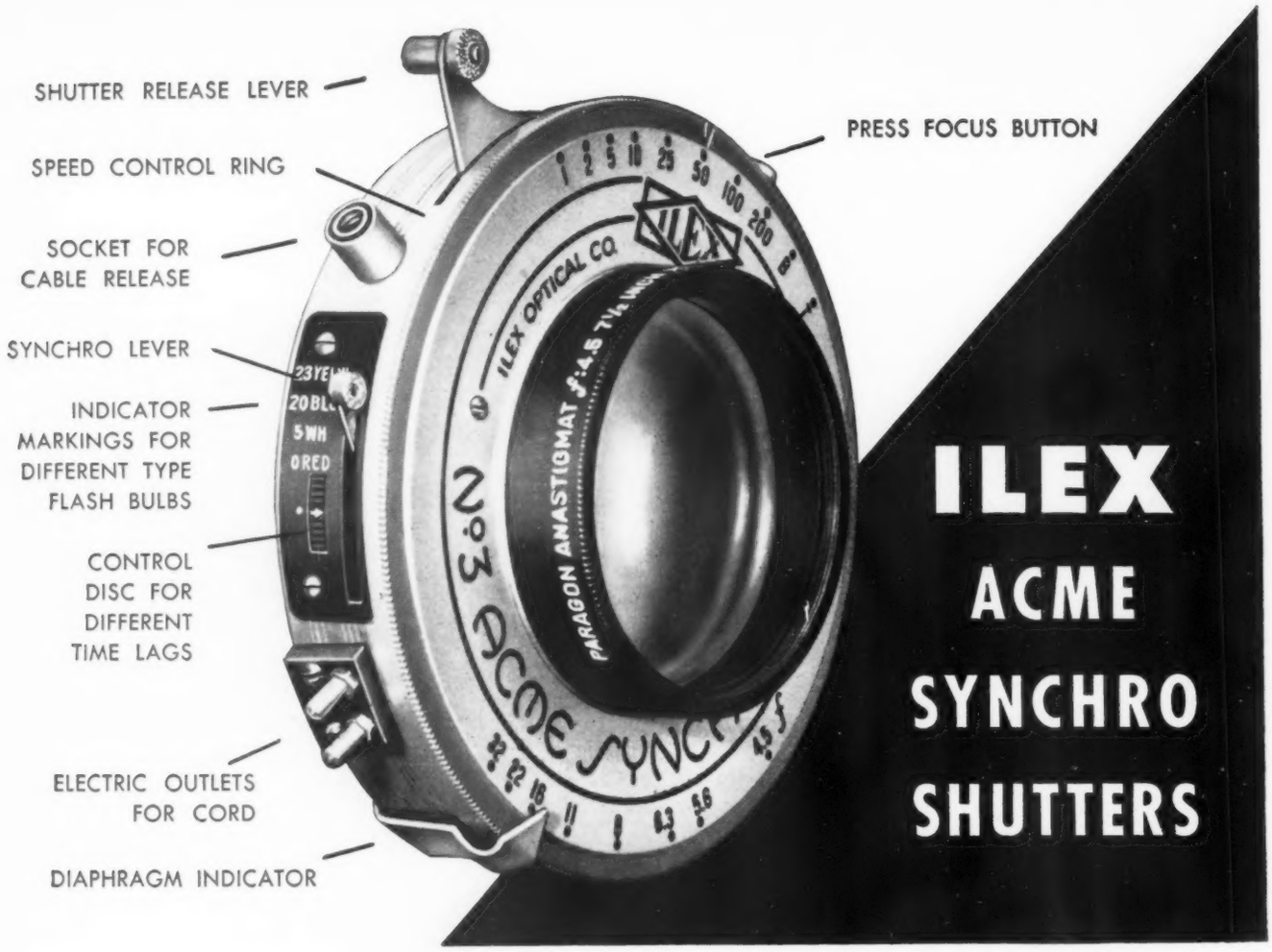

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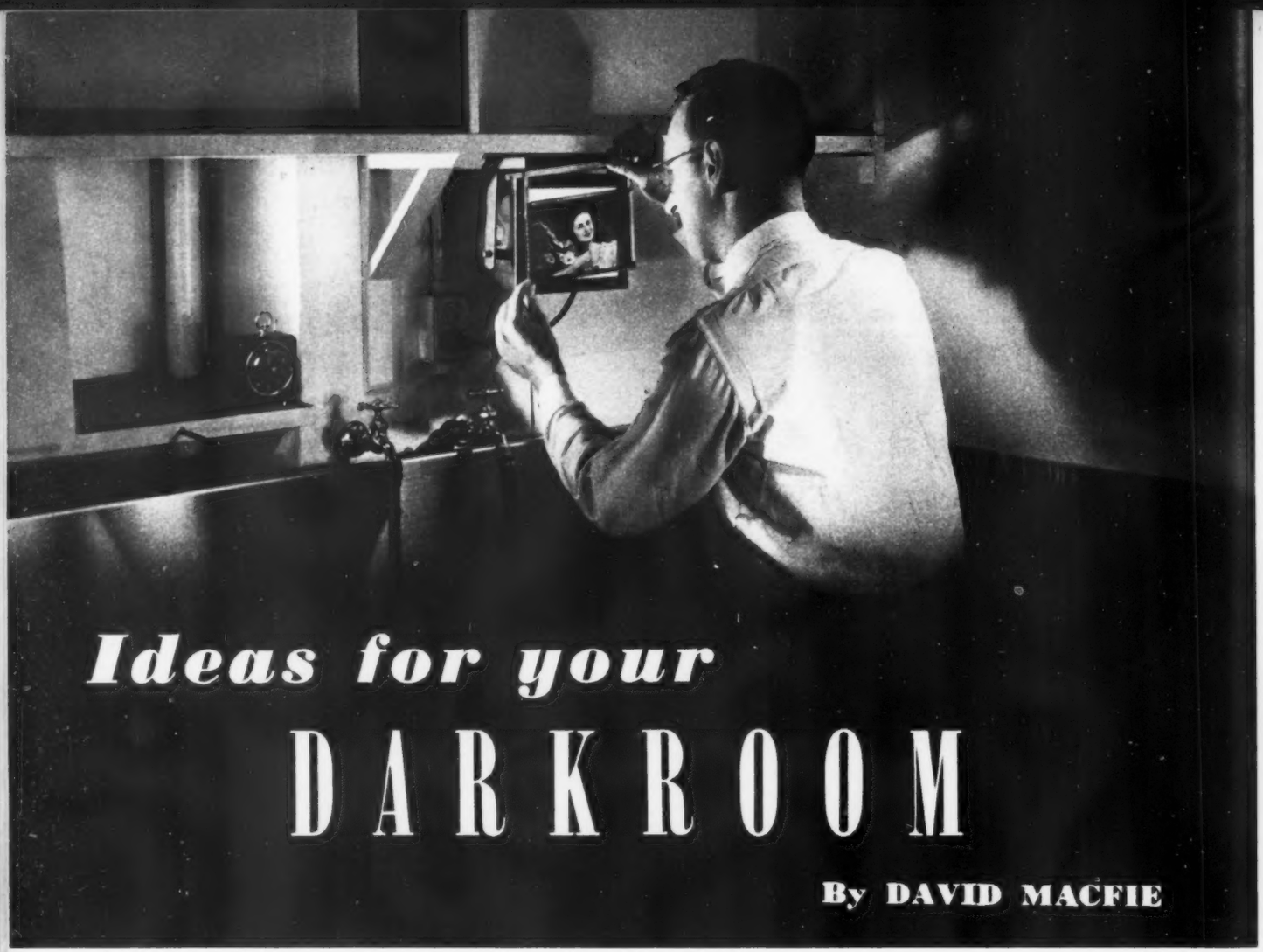


Ideas for your DARKROOM

By DAVID MACFIE

ALTHOUGH many amateur photographers turn out photographs of professional quality in makeshift darkrooms, most of us dream of the day when we will have a permanent setup tailored to personal taste and purpose.

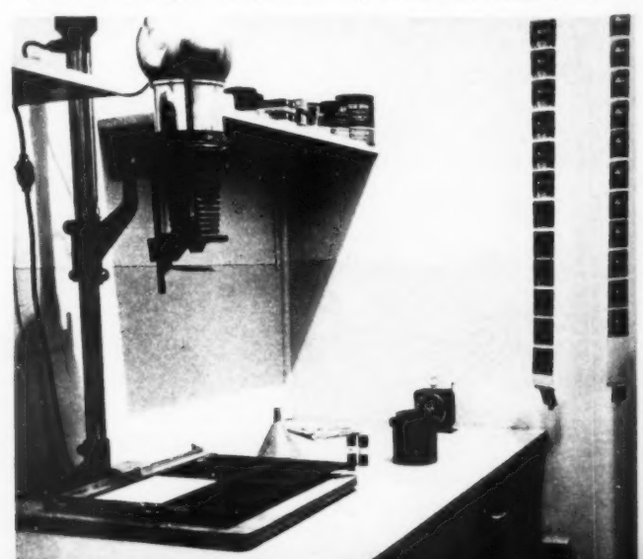
If you're like most of us, the darkroom you eventually will have will be the product of planning, perseverance, pluck—and pocketbook. As you read farther you will find some ideas that for one reason or another are not for you; on the other hand, you'll find plenty of suggestions that will help you to construct an efficient, well-arranged, and comfortable darkroom, or to improve upon your present one.

The location of your darkroom will, of course, depend upon the space available. However, there is usually some degree of choice, and where this is the case, the site selected will be determined by the answers to these questions:

1. Will I be able to heat the darkroom?
2. Is it convenient to get to?
3. Is it near existing plumbing and drains?
4. Will the darkroom be damp?
5. Is it easy to ventilate adequately?
6. Will the floor be able "to take it"?
7. Are there any wiring problems?

The kitchen serves as an ideal spot for a temporary darkroom setup with running water for those who live in an apartment.

A permanent darkroom in a dry basement or spare room enables you to keep all your equipment set up and always ready for work.



Very often the answers to the above questions will rule out the attic as the future darkroom location. Besides being difficult to heat (at least in winter), it's a long way from water lines, drains, and sometimes wiring. An extremely damp cellar is likewise a poor bet, although the average cellar can frequently be utilized by spending a little money for sealing the walls or by buying an economical "dehumidifier" which contains calcium chloride or similar drying agent.

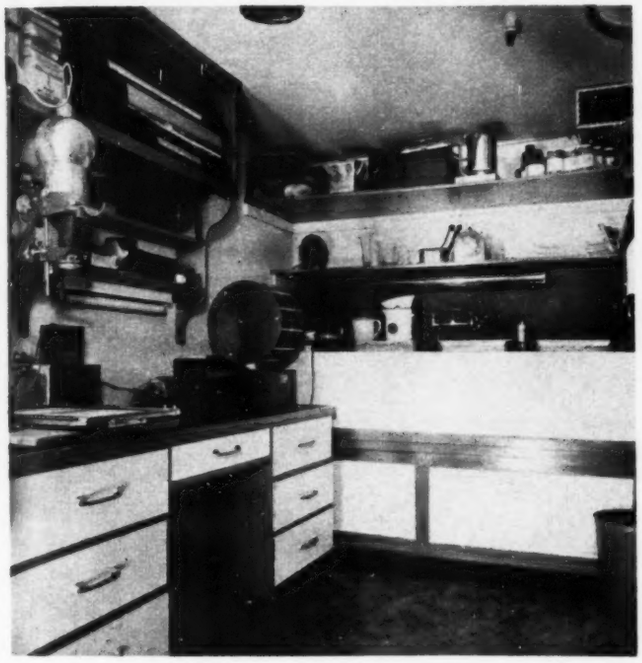
Because of simplified heating problems and the nearness of water lines and drains, cellars are often the choice. Also, they have the advantages of being indestructible in that a solution spilled on the floor doesn't ruin anybody's day. This can be an important factor in keeping peace in the family.

The construction of a darkroom is a matter of common sense and available materials. The floor of the room should be easy to keep clean, and preferably waterproof. If there is wooden flooring, a covering of linoleum is a good idea. And when putting this down, take the trouble to curve it up from the floor to the walls for a distance of about six inches. This avoids sharp corners which are dirt traps. And you are in luck if you can incorporate a drain, for it simplifies cleaning to be able to hose the floor once in a while.

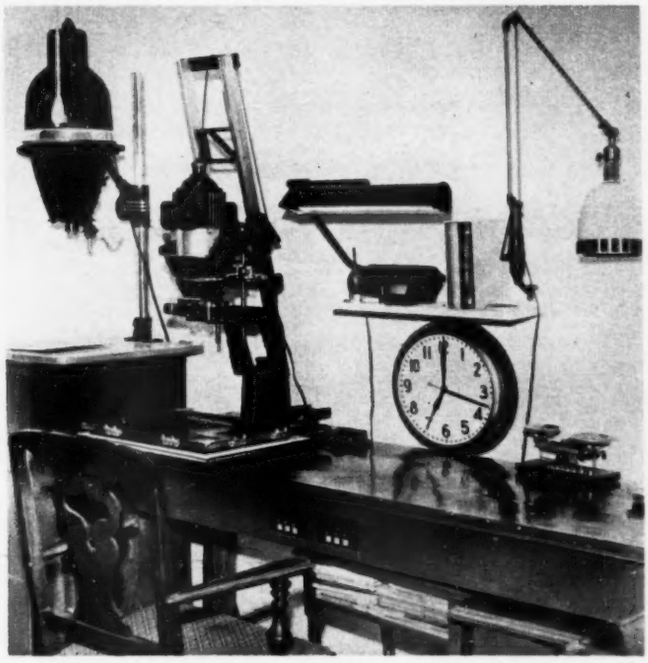
The walls of home darkrooms are customarily built of 2x4-inch studs covered with wallboard. Such construction is easy for the novice to do, speedy, and (best of all) not too hard on the pocketbook. Of course, care should be taken to see that the darkroom is light-tight; the seams where the sheets of wallboard meet should be covered by the uprights, and this should be a governing factor in the placement of the studs. It is also possible to cover the seams with a light-tight tape, or additional wallboard.

It is a great help in ventilating the darkroom to install a blower, ventilating openings, or a light-trapped entrance in place of the usual door. There are economical and light-tight

Amateur Darkrooms Show Details That May Fit Into Your Own Plans



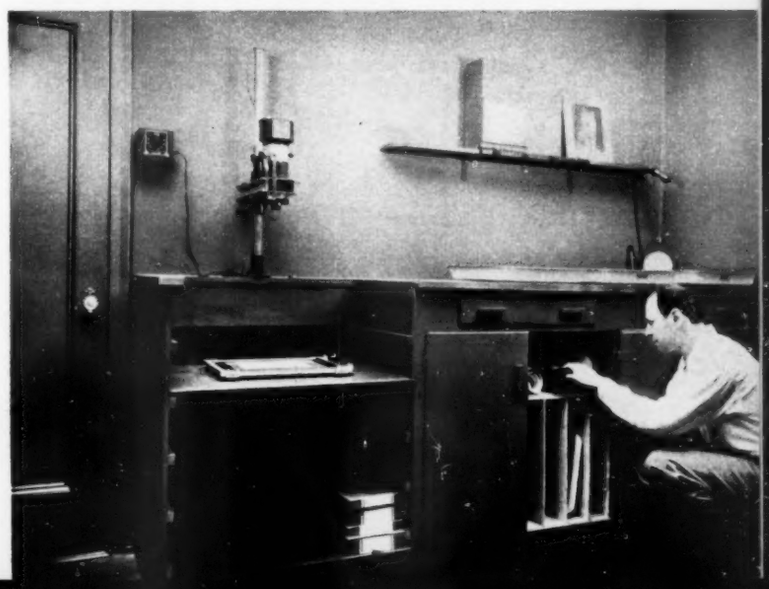
Ample space for work and storage are features of this fine darkroom planned and built by Jack Barricini, New York amateur and president of the candy shops bearing his name. It is located in his suite of offices downtown—ideal for the busy executive.

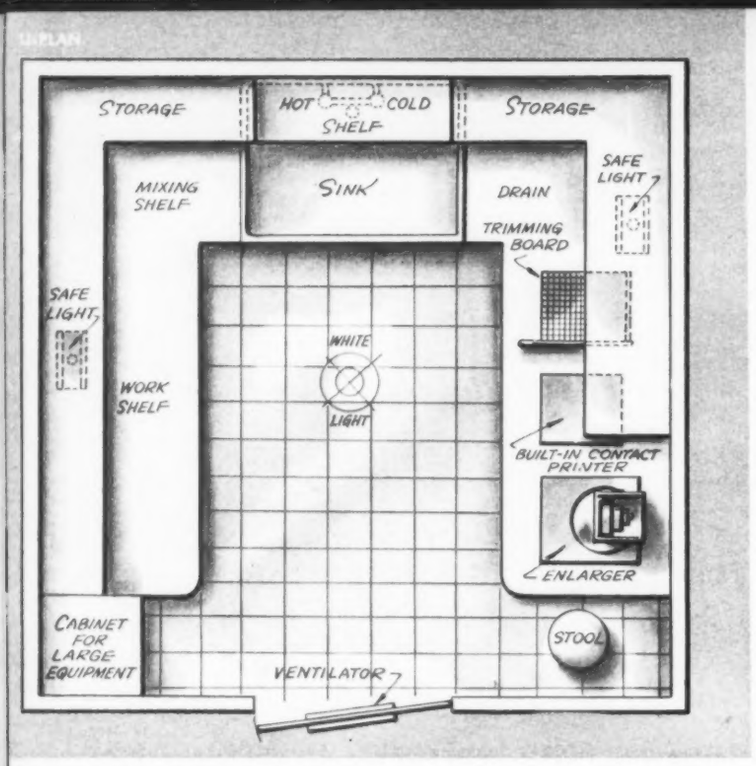


Large electric clock with sweephand, and safelight on special bracket that allows it a wide range are found in the darkroom of Robert Morris, camera editor of the *Brooklyn Eagle*. All lights are controlled by the six switches he installed on front of table.

Interesting details are shown in this picture of Jack Garber, Brooklyn, N. Y., working with his enlarger. Note the built-in contact printer in foreground; ventilating unit, upper left; holster used as a tool kit, rear; and the adjustable safelight, left.

Provisions for making oversize enlargements are incorporated in the darkroom of Sidney Bernard, New York City. The large board that holds his easel can be placed flush with top of work table or lowered to one of five positions, shown by the shelf supports.





A large room lends itself to many different arrangements, one of the best being the U-plan shown here. Adequate space to move about plus good ventilation make for the best working conditions. Front elevations of the three walls will be found on another page.

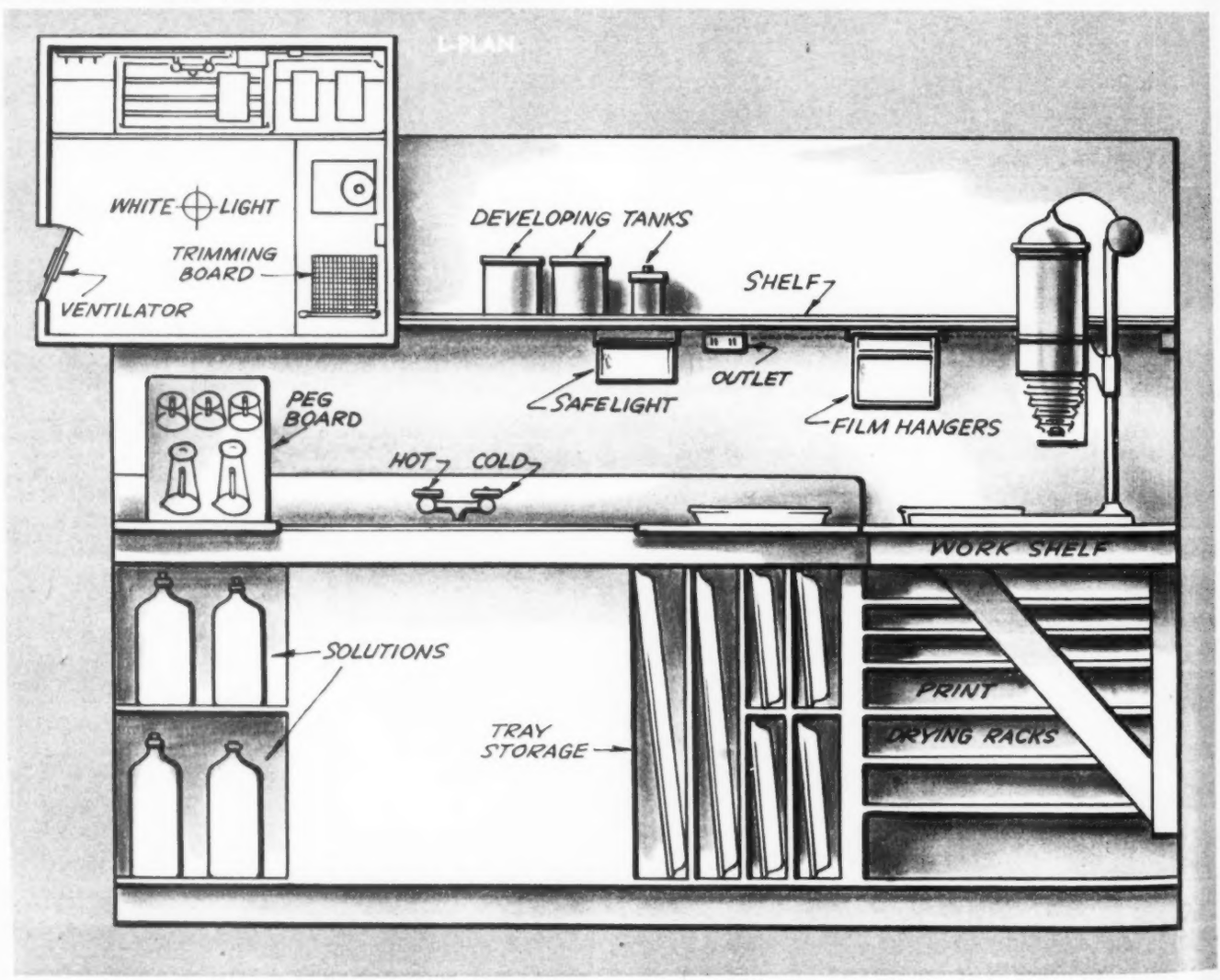
Where less working space is required, or in narrow room, the L-plan may be used. Wall cabinets used in place of the shelf will provide sufficient storage space for supplies and extra equipment.

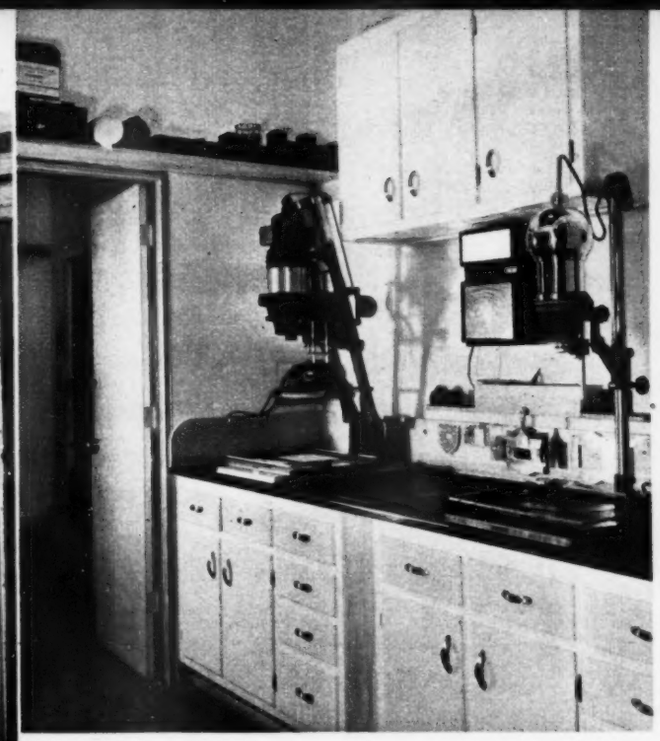
blowers on the market; some cost under $20 and earn their way in the comfort they furnish. Often times merely installing one or two openings which allow air (but no light) to enter the darkroom will give sufficient ventilation. Light-trapped darkroom entrances are no more difficult to construct than hanging a door. Besides furnishing the ventilation for your darkroom, they assure you that no one will surprise you by flooding the room with light while you are loading film holders or a developing tank. A light-trap entrance usually is constructed as a short passageway leading into the darkroom. It requires two or three 90-degree corners, and the walls must be painted flat black to avoid having light reflected around the corners. While such an entrance takes up more space than a regular door, it makes it possible to leave and enter while sensitized materials are out in the open and facilitates ventilation.

While it is not necessary to have everything on hand when you first build your darkroom, installation of adequate ventilating is no harder when the darkroom is being put up . . . and it frequently is a lot easier. Putting in your air circulation system when you build your own darkroom saves later interruptions and bother.

About painting your darkroom, it doesn't need to look like the inside of your camera. You can add greatly to beauty, efficiency, and visibility in your little hideaway if you paint the walls with a light-colored paint. You'll be able to see your work better, and you won't run into the wall half so often. And as to the possible adverse effect upon sensitized photographic materials, you have nothing to fear so long as your safelights are safe.

The selection of your darkroom arrangement, like the selec-





POPULAR PHOTOGRAPHY'S own darkroom was designed for a room that has double doors at opposite ends, necessitating the use of a parallel plan shown in the diagram below. The north wall accommodates a large cypress sink with tray rack below, shelf supports inside sink hold removable slatted top for wet work (illustration, left). Working table on south wall (above) was built on two kitchen cabinet bases. Wall cabinet contains supply of paper.

tion of your camera, should be governed primarily by purpose. It isn't any more difficult to build shelves and work areas to fit you and your own needs than it is to install built-in tables that will make you hump over every time you work. Remember, there are darkrooms, and then again there are darkrooms; having one of the wrong kind is like using an 8x10 studio view camera for candid sports photography. And remember, too, that the darkroom which is just right for Tom, may just be a dark hole for you.

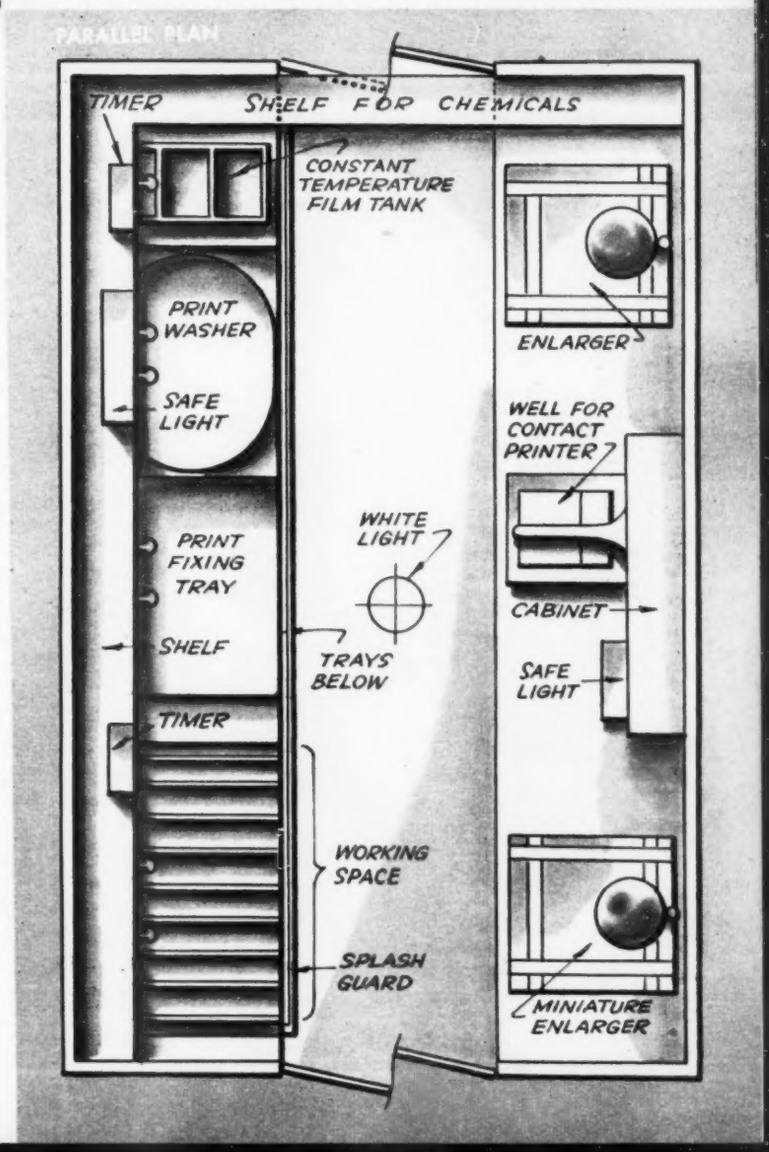
Plan your darkroom so that it serves your purposes comfortably and conveniently insofar as possible in view of the physical situation that confronts you. For example, the height of your work bench is a simple matter to adjust, particularly when you're building a darkroom. Usually, the height of your work bench should be in the neighborhood of 36 inches, but this will vary according to the height of the owner and his preferences.

The width of the work bench should be about 26 inches. This width can be altered by the space available for the darkroom; much narrower benches have proved satisfactory (indeed preferred by some workers), although work space is naturally cut down.

To determine which dimensions suit you, place a dry tray or two on an occasional table, or an end table. Go through the motions of processing in the dry trays with the table propped up at various heights. (Books or boxes are excellent as props.) Then measure that distance that suits you best. You'll feel a little foolish about developing imaginary films in non-existent solutions, but it will help you make a wise decision, one which will mean a lot in the way of darkroom comfort in the years ahead.

And when you build your work bench don't forget that you can build the handy kind without legs. The bench actually has legs, but they are in the form of braces that extend from the front edge of the bench back and down to the baseboard. Such a bench or work table is preferable, because you won't hit your toes on the legs, and their absence permits easier cleaning of the darkroom.

It's an excellent plan to cover the surfaces of the working areas with linoleum or some other waterproof covering to prevent solutions from leaking (*Continued on page* 138)



FUN WITH BAS-RELIEF

A pattern picture is given depth and contour by the bas-relief technique. This study is the work of Leon Cantrell, Nashville, Tenn.

Make eye-catching pictures in your darkroom by this simple printing method that produces the added dimension — depth

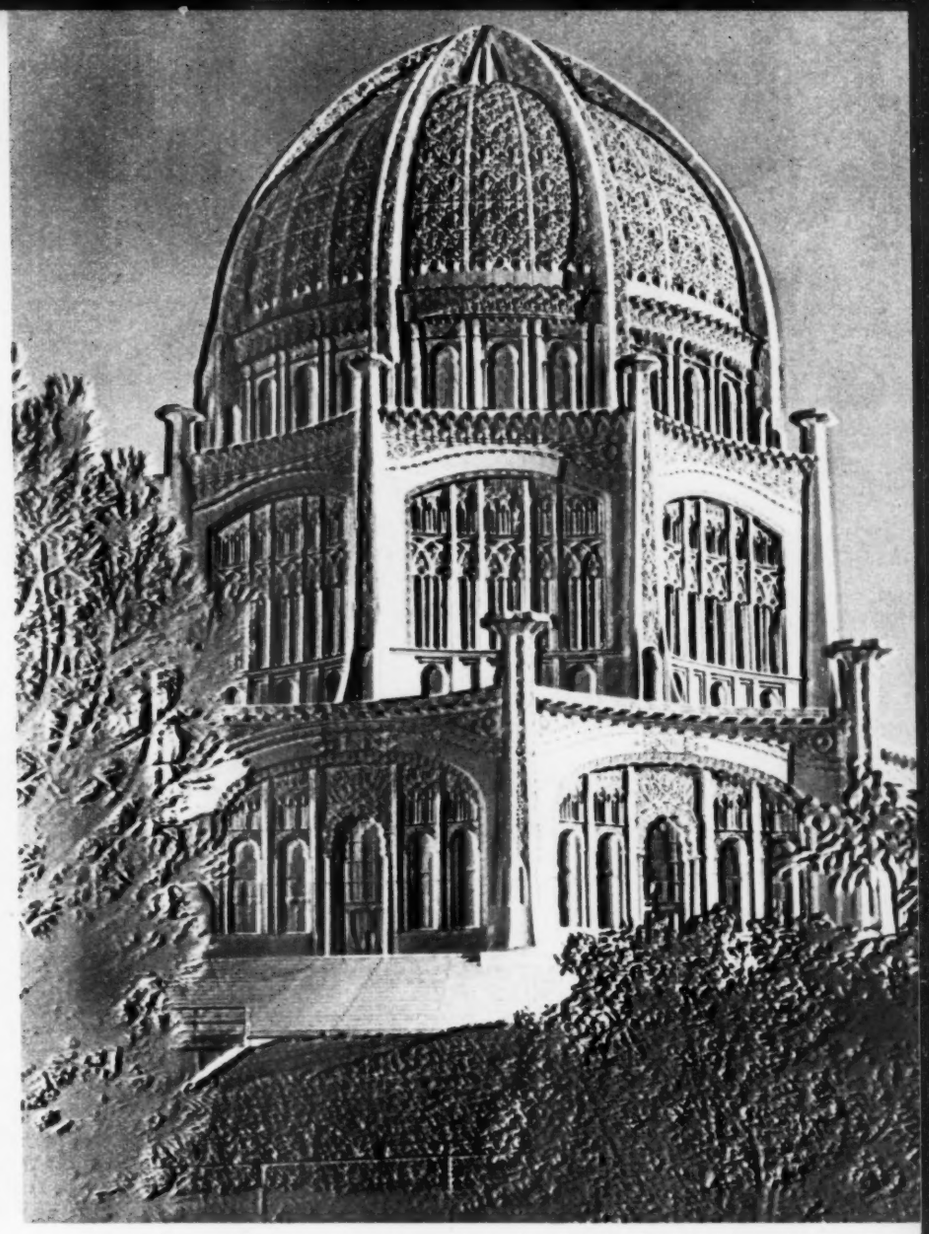
By IRA S. GLICK

EVER since the early cave dweller first drew rude sketches with soot and colored clay upon the rough walls of his home, man has been trying to create depth and dimension in his pictures. Although it is, on the face of it, seemingly impossible to create the three planes of height, width, *and depth,* where only two can obviously exist, there has been a certain amount of success in attempting to achieve it.

Grandmother and Grandfather would sit in their parlor and gaze enthralled down the length of their old wooden stereoscope, seeing, instead of two views of the same scene, a vista with depth and various planes of distance. This was one way of artificially creating apparent depth. Besides the stereoscope, there was the anaglyph—not a puzzle, but a pair of pictures wherein each was printed in a different color and the two viewed through glasses whose lenses were each a corresponding color, so that each eye saw only one of the images in the stereoscopic pair. This, too, created an appearance of depth. Then the war brought with it vectographs, which are similar to anaglyphs, but in place of a two-colored print, you have a print composed of two similar views, each in a plane of different polarization. This combination is viewed through glasses whose eye pieces are disks of non-parallel Polaroid.

To produce a bas-relief you need a negative and a film positive made from it. These are then sandwiched slightly off register and printed. Wellington Lee made the interesting relief print, left, by the method described. His original negative, above, and a straight print from it, are shown for comparison to reveal how picture has been modified.

Placement of the film positive and negative only slightly off register creates the type of bas-relief shown above. The patterns are enriched, but facial quality is not lost, as proved by Wellington Lee's straight print, below.



The delicate filigree in this photograph by Joseph Scharding of Chicago is enhanced by presentation of the print as an exquisitely sculptured bas-relief.

Although the effect of depth and distance created by these and similar techniques is exceedingly realistic, they require additional equipment to produce. However, there is still another method which you can use to create a sculptured quality of depth, and it is one which requires little trouble on your part. This is the photo-technique termed bas-relief, and it takes its name from the cameo-like quality of an image on a plaque or the raised portion of a coin. It is obtained by simultaneously projecting through an enlarger, or contact printing, a normal negative *and* a transparent positive made from that negative, bound together when slightly out of register.

As can be seen by the photographs which accompany this article, the effect is interesting, and the result is a picture with a uniform surface of gray, broken only by the light which has escaped through the cracks caused by the off-register, and which causes the black outline effect. Detail is subdued, and surfaces often take on a striking texture. With the proper choice of subject matter, however, this over-all effect can add to, not take away from, the scene.

Since this technique of bas-relief emphasizes form and contour, the best negatives to experiment with are those which have sharp lines, clear and simple forms, and some regions of detail or pattern. Semi-silhouettes, too, make effective bas-reliefs. Architectural subjects, people at play, flowers, portraits, and many of the file negatives you have never considered as being worth much trouble possibly will make fine bas-relief prints.

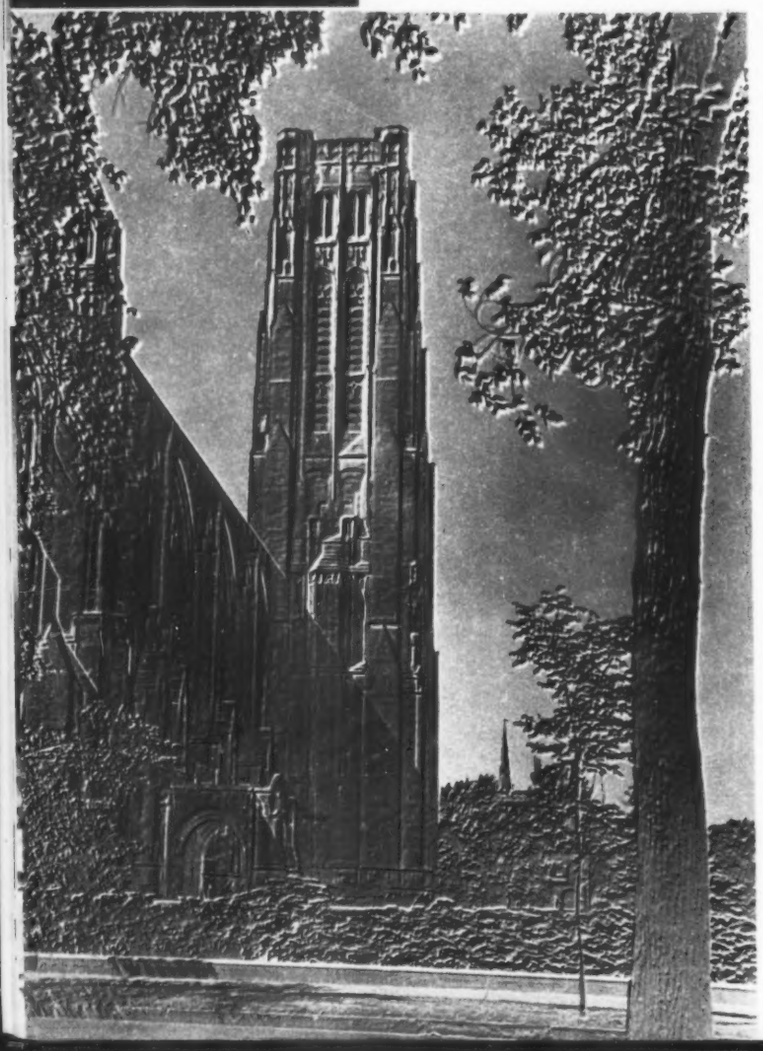
Avoid negatives which have too much detail, and too many variations in tone, for your final print will look as though someone had kicked the camera at the moment of exposure.

The basic method of making a bas-relief print requires that you first make a film positive from your selected negative by contact printing. This is a simple step, and can be done in your own darkroom. To make this positive, take the negative and place it on a contact printer or in a printing frame, just as though you were about to make a contact print. Then take a sheet of similar film and place it with the emulsion side in contact with the emulsion of the negative, and expose to light. Since your material is many times faster than printing paper, exposure must be extremely short. You will find that a momentary flash of about 1/25 second duration from a 60 or 100-watt bulb placed a few feet away from the film will work well. If you use a contact printer, the fact that the film is not that far away from the light is not important, since the opal glass cuts down the light. You will find that some negatives require more or less exposure, depending upon density. Additionally, you can control the contrast in the new film positive by overexposing and underdeveloping to soften it, or by exposing it less and developing it longer to give it more contrast.

The film positive you have made in this manner should have less density than the master negative, since a positive which is more dense than the negative causes too contrasty a bas-relief print, and cuts down over-all detail and quality.

This step correctly accomplished, you now have a negative

The three steps which create a bas-relief are shown clearly in this set of pictures by Arthur Haug. At upper left, the film negative and positive are placed on a viewer prior to their registration. Above, the depth-effect can be seen clearly as the two films are moved into alignment, displaced slightly, and, at left, taped in thet position. These taped films, handled as a single master negative, then were used to create the strikingly sculptured print which is reproduced below.



and film positive. Handling them by the edges, place them over a viewer or on some light-colored object, and slide them together, emulsion to emulsion. Move the two films so that they register perfectly and reinforce each other's image, and then separate them slightly. As you do this, you will note an odd effect—depth. This is created the moment your films are slightly off register, and it should be watched carefully. Separation should not exceed one eighth of an inch, and since the separation is increased by enlargement, it should often be kept to less than this.

Once the registration has been decided, the negative and positive are bound together with tape, and the combination becomes the master film for your bas-relief prints. You will find that final effect depends upon the density of the films, a dense set creating a more negative-like bas-relief, and a thin combination creating a more positive one; upon the degree of separation, with the greater the displacement, the greater the appearance of depth; and with the contrast of the paper used for the final print, a soft paper causing a more marked effect of relief.

Since the film you are using for a master negative is actually two separate units, your exposure is going to be a good deal greater than for your original negative. A good rule of thumb is to count on an exposure at least four times as long, but trial test strips should be used for the most nearly perfect result.

Another method of making these intriguing relief scenes without having to make a film positive is by use of the original negative, together with a contact print of that negative. This paper-and-film sandwich is bound together, emulsion to emulsion, slightly out of register. Since your emulsions are face to face, your print will be made through the back of the negative—which creates a reversed print. Additionally, printing through the paper causes a grainy appearance in the bas-relief print, but this may be lessened by final printing on a rough or textured paper.

If you wish to avoid the film positive stage, but do not want your finished print reversed, as is the case in the previous technique, there is another method you can follow. This calls for a paper negative and paper positive to be used together. An enlargement is made from the selected negative, and that print is placed with its emulsion side to the back of a sheet of printing paper. This sandwich is then printed through the back of the first print, and the paper negative so obtained is processed. After processing, the two paper prints, positive and negative, are bound together in the same manner as they were when the paper negative was made. The combination of the two is then placed with the emulsion side of the paper negative to the emulsion side of a fresh sheet of paper. In this way you can make a bas-relief print without having to revert to a film process, and have the final image correct in appearance. Single-weight glossy paper should be used for the original print and paper negative, and the final print can be made on any surface desired.

This last technique is of particular value for the user of miniature film, as handling negatives in smaller sizes when making these prints is a difficult task. However, extreme care must be exercised in handling the paper materials used as they have a tendency to bend out of alignment when held together. You may find it to your advantage to keep the bound units and bas-relief print paper between two sheets of glass while placing it on a contact printer.

Your finished bas-relief prints, providing that you have made a wise choice of negatives, will be well worth the trouble you have taken, and will prove to your friends that you have had the imagination to leave the beaten path, and experiment for yourself. Bas-relief prints offer you a pleasant respite from the all too frequently limited possibilities of darkroom work, and are not in any way difficult to make. Too, they offer certain possibilities, aside from the personal pleasure you will achieve in actually producing them—you can enter them for exhibition, submit them for sale, or use the technique for portraiture. You may even find that certain of your negatives can be used to make tiny bas-relief heads, or figures, suitable for use in a locket or small frame. But whatever your use of the technique, you will find that it will stimulate your imagination and provide you with an intriguing interlude.

The beauty of bas-relief lies in its unique appearance, and in the fact that the materials you will require can be found in most cases within easy reach; so, take the time and try it.—

Fredericka—Design for a Fan required the making of nine negatives and some fifteen transparent positives. Though this sounds complicated, the process actually was simple. Little retouching was required; the procedure is described step by step in the accompanying text.

Transparent positives that you can make from your negatives will help to create striking prints. Try this method to . . .

ADD THAT 'PLUS' TO YOUR PICTURES

By C. COURT TREATT
Illustrations by the author

C. Court Treatt, *here caught balancing a lissome subject via the diapositive process, is a Hollywood photographer who has been big-game hunter, fighter pilot for the RAF in the first World War, and explorer. He supervised construction of the Cape to Cairo air route for the British government, and produced the motion picture "Sudan." Visiting Hollywood to sell this picture, he stayed there and opened a studio which he has operated except for an interval during the war when re-joined the RAF.*

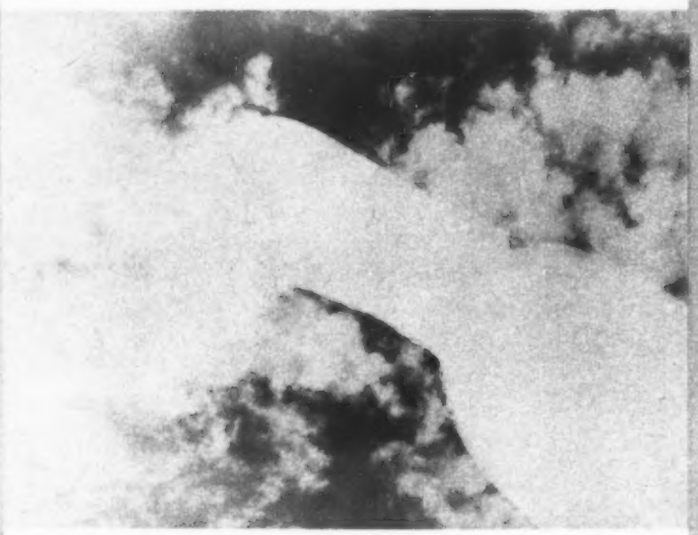
THERE are many kinds of photographers. They range from the *f*/64 purist who considers even the most unobtrusive retouching as the eighth deadly sin, to art-for-art's-sake photographers who print diffused negatives on rough paper through burlap. I once knew a photographer who photographed a rough-cast wall and made a "texture screen" from the negative. Though this he printed a portrait of his girl-friend—a comely damsel. When last I saw him he was looking for another girl-friend.

Then there are the chemical and finegrain enthusiasts who cherish little brown bottles which they age with as much loving care as though they were vintage port.

Perhaps I am eccentric, but I cannot believe that manufacturers employ skilled and highly paid chemists to work out developers best suited to the modern products, and then that I should retire secretly to my darkroom and, like some furtive alchemist, compound strange brews in the hope of putting something into a negative which isn't already there. However,

1 **Print of basic** negative used to create "Sleeping On A Cloud" by the method shown here. Treatt altered, combined, and rephotographed three diapositives to make final negative.

2 **Next step** was to make diapositive from original negative. By the use of a bleaching solution described in text, all but the image of the model was removed from this transparent positive.



3 **A suitable cloud** scene was photographed and diapositive made from the negative. Then the area to be occupied by image of sleeping girl, Step 2, was cleared by local reduction.

4 **To fill** the bare corners, Treatt made two negatives, one of lilies (symbolic of sleep) and another of the butterflies (to add a few dark accents), then combined them in one positive.

I do believe that a straight picture can be improved.

I believe that the end of all photography is the finished print, and any techniques which will make the finished print exactly what is required are legitimate and desirable. If you look through your file of negatives you will find several that could be bettered by alterations and additions, but many photographers are deterred from attempting this by the apparent difficulties.

To take the simplest case, many pictures can be vastly improved by the addition of the right clouds in the right place. In California where I work, we have cloudless skies most of the year which, while it rejoices the heart of the Chamber of Commerce, is apt to be tough on the photographer, and any technique which enables him to put in clouds where and when he pleases is of great value.

I once had an assignment where a little girl reading a book of fairytales, day-dreams and sees magic castles in the air. This originally was tried by having an air-brushed background made in which clouds were formed into the shape of castles, but the result was too artificial and over-stated. Finally, suitable clouds were picked from my file of cloud negatives; the model was posed, and lighted to fit in with the composition of the clouds, and the clouds and model were combined by the method about to be described.

This method concerns itself with the use of a *diapositive*, which is nothing more than a positive image on glass or on a film base, intended to be viewed by light passing through it, rather than light reflected from it. A color transparency, a lantern slide, and a film positive can be termed diapositives, as can any transparent positive image.

The type of work that I have mentioned previously has been done by using ordinary film for the diapositive, but this is expensive, and the retouching requires skill which only professional retouchers acquire after years of practice. The paper negative method usually is incapable of producing results of sufficient clarity to satisfy editors and advertisers, and there are attendant difficulties of grain. Magazine advertising is becoming more imaginative, and it is important to have a means whereby an imaginative picture of good printing quality can be produced with comparative ease. I have found that excellent results can be obtained easily by the use of translucent positive material such as that which is marketed

5 In the final step, the three diapositives—model, cloud, and combined lilies and butterfly effect—were individually retouched to the author's satisfaction. They were then carefully bound together in accurate register, and the resulting composite placed on a window pane so that it could be photographed by transmitted light. The single copy negative made in this manner produced this lovely print.

by Defender under the name of *Adlux*, and by Eastman under the name of *Translite*. I frequently use *Adlux*, which is a delicately translucent base with a Velour Black emulsion on *both* sides and has also on both sides a very fine grain which takes pencil, crayon, India ink, or oil color applied either with brush or rubbed on delicately with a small swab of cotton.

As a simple example: suppose we have a picture of a girl against a clear sky and we wish to add clouds. We first make a print of the girl, placed on the translucent base in such a position and of a size that will fit in with the composition and with the clouds we have selected. We then make another print—of the clouds, composed to fit with the print of the girl. These two prints are then put together on a light box or against a window, and when the correct balance is obtained, they are taped together into position. Then—and this is important—register marks in the form of a small cross are made at two opposite corners of each diapositive. You will find that these register marks enable you always to bring the diapositives into exact registration again during any future operations. The next stage is to trace the outline of the girl on the cloud diapositive. The two diapositives are now taken apart and the portion of the cloud diapositive which is to be occupied by the girl must be bleached away. Then, when the two diapositives are again bound together in register, you will have the girl against the sky and the combined diapositive can be copied to produce a single negative.

As regards bleaching: a sharp edge can be obtained by applying the bleach to the dry diapositive *sparingly* with a brush. I say, "sparingly," because with a full brush the bleach is apt to run. If a softer edge is required the diapositive can be well soaked in cold water, wiped free of water spots and surface moisture with chamois-leather or a viscose sponge, and a bleach applied to the damp emulsion. Again, the fact that the translucent material has an emulsion on both sides, enables one to obtain a variety of soft or "feathered" edges by varying the line up to which the bleach is applied very slightly on either side. Where it is desired to bleach a large area, this can be done very easily by applying a clear lacquer, on both sides of course, to the portion it is desired to retain, and then bleaching out all the rest of the diapositive in a tray of bleach. If desired, the lacquer can then be removed from the washed and dried diapositive with lacquer (*Continued on page* 148)

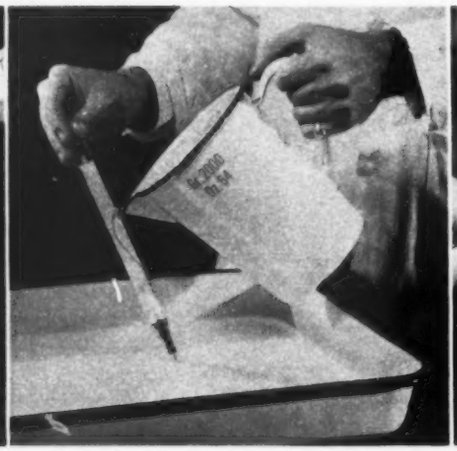
BEGINNER'S GUIDE *to good d*

Do you mix your developer like this? Better not. Too-vigorous shaking causes excessive oxidation, thus your developer is partially exhausted even before use.

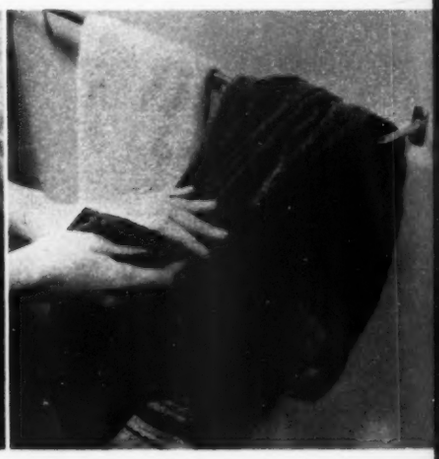
Swirling the solution in this fashion—without shaking it—is a preferred method of dissolving developer ingredients. Teach yourself good darkroom habits.

If you haven't a small-necked bottle, a graduate (such as shown) will serve for solution-mixing. Graduate is placed in a tray to prevent spilling on work table.

Even a novice, of course, won't pour solutions this way. But maybe it'll remind you to be careful not to splash, with resulting stains on prints and clothing.

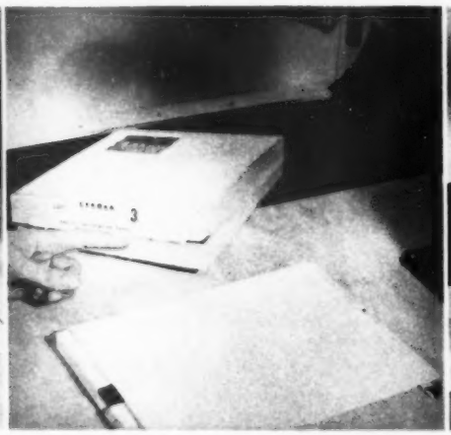


This trick achieves splashless pouring. Hold a thermometer or stirring rod at the tip of the graduate so that the solution can follow it, without fuss, into the tray.

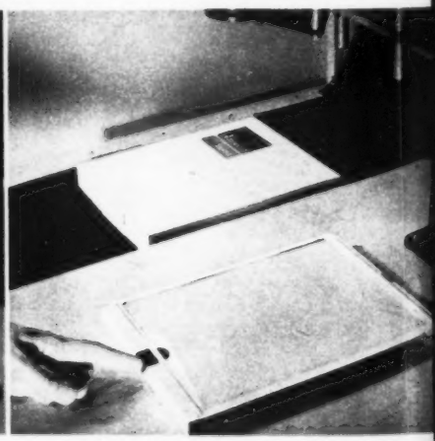


Do your prints occasionally show unexplained fingerprints? A hypo-laden towel may be the trouble. The obvious remedy is to use only clean, dry towels.

Watch that thumb, old boy, or you'll have a large thumbprint in the picture. Get yourself into the habit of handling photographic paper only by the edges.



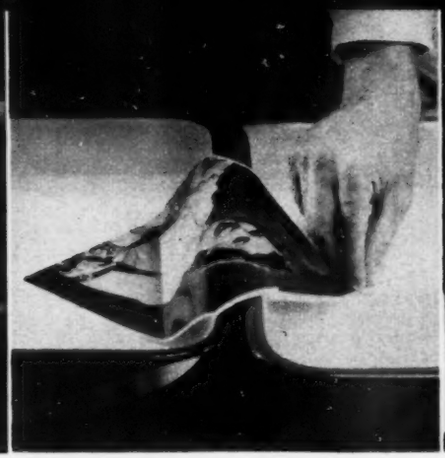
Be sure your paper is covered before turning on lights. Double-check yourself every time — see that the container is covered before touching the light switch.



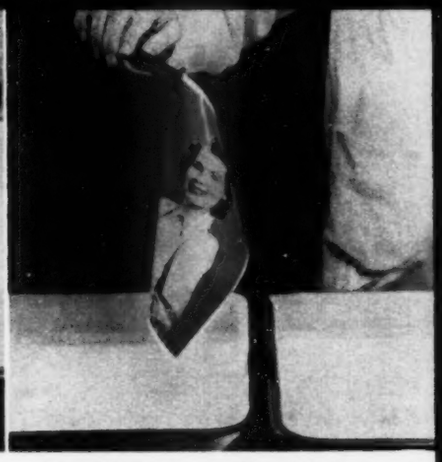
Buckled paper can cause local out-of-focus areas. Before exposing paper, be sure it lies flat in the easel and that the print borders are even all around.

d darkroom technique

Omitting the acetic acid bath is false economy. The stop bath halts developer action at once, helps to prevent stains, and prolongs the life of the fixing bath.



Only a careless darkroom worker will slop a print from one tray to another, as illustrated here. The chances are that his entire technique is equally sloppy.

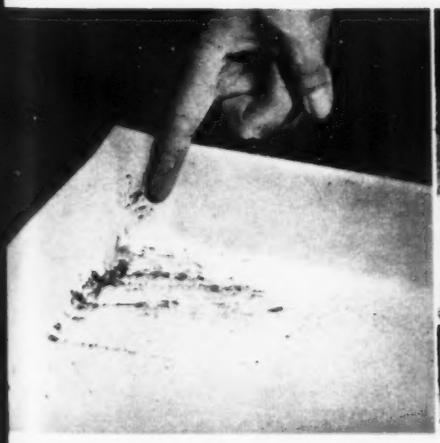


A good way to transfer prints from one solution to another is by use of tongs, instead of fingers. Drain print to avoid carrying over one solution to the next.

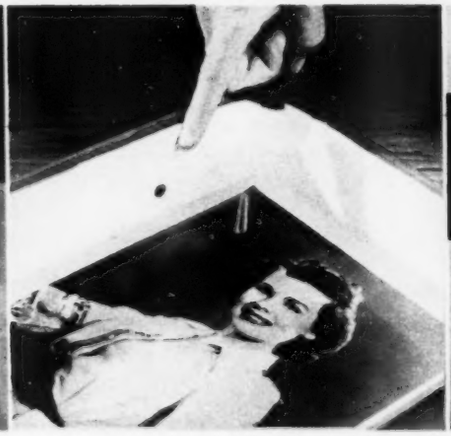
Agitate tray during development of the print to insure all-over, even action of solution. Here the safelight is placed too close to the tray, may fog the paper.

Two faults are in evidence here. Again, fogging can result if print is held too close to safelamp. Second, heat of hands can cause either a dark smudge or stain.

Never turn on a white light until the newly made print has been in the hypo for at least a minute, or fog may result. Too, be sure to agitate print during this time.



Dirty trays are troublesome—clean them thoroughly after use. Hypo crystals, for instance, contaminate developer. Remove developer-tray stains by soaking in hypo.



Chipped trays soon rust and thus cause blemishes on prints and negatives. Don't throw the faulty tray away, though. Just paint rust spots with fingernail polish.

Don't subject your prints to a strong direct stream of water—such as is shown here. If you do, you may separate the print emulsion from the paper backing.

A PICTURE STORY BY DAVID NELSON

A front view makes a good starting place; it can be used as a cover for an album. Try to choose the best season and lighting.

You can make a picture record of your home without special lamps or lenses—or apply this technique to take photographs of friends' homes as gifts or for spare cash

By JOSEPH FOLDES

Illustrations by the author

PORTRAIT OF A HOME

For a frame within the picture, try shooting through an open doorway. You will have to stop down your lens for depth of field.

IT DOESN'T TAKE elaborate equipment to make good pictures of a home. Whether you live in a house or an apartment, you can make a priceless personal record of your home that will hold memories like an old diary in the years to come. Any good camera will do the job, if you know its possibilities and limitations. Once you have mastered the fundamentals by practicing a bit, you will be ready to make pictures of your friends' homes as gifts—or to help pay for those new accessories you've been wanting for so long.

I once asked a fellow amateur what he thought should be included in the "necessary equipment" for photographing a home, inside and out. He said he could not tackle the job without a wide-angle lens, a camera with tilting, swinging, rising, and sliding front and back, and several lights on portable stands. When I told him he could do it with his existing outfit, all I got was an unprintable answer.

Let us get down to the facts. First we have to differentiate between two classes of home photography: 1. That done for an architect for professional purposes. 2. That done for an individual (usually the owner of a house) for his own record and enjoyment.

Architectural photography, especially the indoor variety, does require some extra equipment. Wide-angle lenses and plenty of lights are the most important. The camera should have groundglass focusing, rising and sliding front, and should accommodate different lenses. But even if we do architectural photography as a profession we do not need swinging or tilting front or back. I discussed this point with one of the country's outstanding architectural photographers. This is what he said: "In the final print the subject should be pictured as it appears in real life. Parallel lines should be parallel on the picture. If I cannot include the top of a building in my shot, I raise the lensboard. If this is not sufficient I tilt the camera backward. This will result in distortion which can be corrected easily while enlarging by tilting the easel. But if I were to use a swinging and tilting front and back it could result in a complicated distortion which could be corrected only with great difficulty." So much for the photographic work to be

The personality of a room often can be brought out by including its owner in the picture. This avoids an empty "furniture-catalog" effect.

Furniture moving can improve the end result. Here pieces were placed closer together to get them all in.

done for architects. It has plenty of problems of its own.

We are really interested in, and dealing with, photography of the home for individuals like ourselves. Here I can prove that simple equipment will enable you to get good results and even earn good money in this field. This simple equipment consists of:

1. Any camera with which you can take sharp pictures.
2. A solid tripod.
3. Two No. 2 floodlamps in reflectors. The reflectors can be either on stands or of the clamp-on type.
4. A photoelectric exposure meter.

This is simple enough equipment and most of us have it.

When we do a job we want to get as many good shots as possible—whether the pictures are for our own personal satisfaction or for sale. There are three things we can do to achieve this. First, we must make clear, sharp photographs. Second, we must make a separate picture of each thing which is of interest to us—or to the potential purchaser. Third, we must finish the photographs in such a way that all of them together will make an attractive package that we will be proud to have—and that will be easy to sell, if we are interested in that. If the whole job is made up into an album, neatly arranged, most likely we can sell it. Submitting proofs is not a good idea here, because it provides a chance for pick-

A sunny day is essential to get a picture that captures the effect of a sunroom like this. One floodlamp was employed to fill in the shadows.

Day and night pictures made from about the same camera position are interesting; so are shots taken at different seasons of the year. If you want to photograph homes for profit, be sure not to miss any angles like this. They help sell more pictures.

ing out just a few shots. Besides, proofs are not usually attractive prints. You will sell more, and get more satisfaction out of your own work, if you mount the prints to make up a finished album.

To learn the technical end of the job you can accompany me while I photograph an average house inside and out. We can discuss and solve the problems as they present themselves. Recently I was called on to make a photographic record of a home. As I had to travel more than 50 miles to get there, I limited my equipment to essentials. I took my 4x5 camera with a 5-inch Zeiss Tessar lens in Compur shutter, a lens shade, a tripod, and two No. 2 floodlamps in reflectors. One had a stand, the other was on a clamp.

Arriving at the place, I found the sun in good position for the outdoor shots. Most effective shots of many buildings can be made when the sun hits them from about a 45-degree angle. This lighting brings out the details of the design most naturally. Keeping in mind that the more shots I take the more I will sell, I took several of the outside of the house. All were taken with a small aperture (*f*/36) for greater depth of field. I had not even entered the house and I had three pictures already. If it had been summer I would have taken a couple more shots in the garden, even close-ups of the prettiest flowers. People like those and are proud of them.

Now I entered the house and started to work. Using an ordinary lens, I was handicapped because I could not include as much of the rooms as I could have with a wide-angle lens. But I overcame this difficulty in three ways:

1. I photographed the most important part of each room. The people who live in a house do not realize it if some part of a room is excluded. If the important part is there, they will accept the photograph as a true picture of that room.
2. I rearranged the furniture to bring important pieces into the field of the camera as much as possible.
3. I took more than one picture of each room, changing the camera position between shots.

A diagram appearing later in this article shows a rough layout of the house. On this layout are marked the camera and light positions for each picture. While these arrangements probably could seldom be duplicated exactly, they will serve as suggestions for handling similar problems.

For the first indoor picture, showing part of the hallway and the dining room, the camera was set up in the parlor so as to include the two pillars at its entrance. This camera position is marked 1 on the diagram, and the lights for this particular shot also are marked 1. One of them was placed at the right side of the hallway, the other in the near right corner of the dining room. The main lighting came in through the window and door along the left side, and the two lights served merely as fill-ins. (Right and left refer to directions as seen from the camera position.)

When such a job is to be done with modest equipment, it is imperative to select a time when there will be bright daylight. The daylight on one side and our lights on the other will combine to provide balanced lighting. However, if the sun is shining into the room being photo- (*Continued on page* 180)

Decorative details like these dining room sideboard pieces are easy to photograph and provide extra prints to round out a series.

Extreme sharpness is needed to capture the texture of wood, and can be obtained by stopping down for longer exposures.

By VIOLET WITT

Camera Girl Judy Lieding brings a set of exposed films to the Photomobile, where they will be developed and printed within twenty minutes. This mobile lab does processing for three night clubs.

In a Merry

PHOTOMOBILE

Milk wagon becomes darkroom as two ex-GIs enter night club photography

THE PRETTY girl with the press camera and the speedlight stops in front of your ringside table, smiles, and says "Like to have your pictures taken?" And although you have three cameras, do your own processing, and have had prints exhibited in international salons, you probably will grin at your date and mug self-consciously as the flash goes off.

But you may be just a little surprised when, about twenty minutes and two drinks later, the camera girl returns with your pictures—and they turn out to be sharp, snappy enlargements, thoroughly dried and mounted in attractive folders. About then you will begin to wonder how speed and quality can be combined so effectively.

If all of this has happened in Madison, Wisconsin, the chances are that the secret of the whole process is the "Photomobile." Property and invention of two ex-GI's, Monte Couch and Art De Jong, the Photomobile is a darkroom on wheels which shuttles between three different night spots. Formerly a conventional milk wagon, it has now been converted into a most unconventional unit for very rapid developing and printing, and the result is the speedy service that most night clubbers now take for granted.

The Photomobile is a model of compactness. Its outer dimensions are small enough to allow it to park in the crowded streets near the night clubs; at the same time, working space inside the truck has been utilized so efficiently that not a single necessary piece of equipment has been omitted.

A gasoline generator is installed next to the driver's seat to provide enough electricity for the 1,000-watt drier, the 25-watt light, the enlarger, and the exhaust blower which keeps the air fresh. When first installed, this generator caused too much vibration, making all the enlargements come out fuzzy. The problem was partially solved by the use of a wood and rubber cushion between the base of the generator and the truck floor; this helped, but the prints were still slightly fuzzy. Finally the entire assembly was mounted on clutch springs which eliminated all vibration.

Actual processing is done in the rear section of the truck, which is made almost completely light-tight by a canvas door in the front panel. Developing trays line one wall of the inside; the enlarger is secured tightly in a corner, and the drier, a very important item when speed is essential, is on the opposite side. A vent in the roof provides an outlet for the blower which keeps the atmosphere fresh and workable.

On a working night, two men handle the Photomobile. One stays in the rear section, developing and printing pictures, while the other drives the scheduled route between night clubs. At each stop the camera girl is ready with her load of exposed film which is put into work almost immediately. The processing

(*Continued on page* 186)

Partners Couch and De Jong lift enlarger into the Photomobile where it is bolted down securely as precaution against any vibration.

De Jong and Carol Cox, camera girl, pose in front seat. Gasoline generator supplies power for enlarger and drier.

darkroom *Pictures*

THESE ORIGINAL, STRIKING, AND IMAGINATIVE PHOTOGRAPHS PROVE THAT CREATIVE WORK CAN BE ACCOMPLISHED IN THE DARKROOM USING VARIOUS TECHNIQUES TO MODIFY THE NEGATIVE OR PRINT, AND SO PRODUCE A NOTEWORTHY PICTURE

UNUSUAL, odd, and effective pictures can be produced in your own darkroom with the techniques shown on these pages. They are fun, and require a minimum of time and trouble.

You can pair one negative with another and make a double print, you can crop, tilt, dodge, or burn in. You can reticulate or solarize, make photograms, paper negatives, bas-reliefs, or create numerous other unusual effects. You can add or subtract, change or modify, correct or distort.

The negative is not the end result, but merely a tool to do with as you see fit, and these pictures prove that fact. To learn what these photographers have done, see Notes on the Picture Section.

→

Two negatives were adroitly superimposed in this well planned combination print by Arthur Siegel of the Institute of Design. The lines of the background achieve a rhythmic pattern which seems to repeat the attitude of the ballet dancer.

This delicate partial solarization produced by Edgar Zobel of Chicago reveals with faithful texture all contours of the face but keeps the masses high in key, low in detail.

←

In the days when photography was young, effects such as those reproduced on these two pages sometimes were obtained without any effort at all on the photographer's part. However, nowadays one must make a deliberate effort to achieve them. Distortion-pictures, like these by the photographer Serge, of Paris, are effective, not as novelties, but as a technique of emphasizing the story the picture has to tell. Note how the wrestling shot creates a tense and action-packed ringside scene, how the speeding cars seem as though they were a delirious figment from the mad dream of a racing driver, and how the curving bullfight print possesses a feeling of motion.

Two negatives frequently can be combined to give you a far better photograph than could be obtained from either of the single scenes. This magnificent double print has the feeling of a warm summer's day as seen by the half closed eyes of a dreamer sitting in the sunlight. The photographer is Arthur Siegel.

Three girls swing out in a jam session portrayed by Wilfrid Zogbaum of New York. To achieve the feeling of hot and happy music he placed a sheet of glass between his enlarger lens and printing paper, and smeared it with rubber cement. This helped to distort the final image, and to create an imaginative effect.

Gleb Derujinsky, Jr., New York, made this high-key montage, combining full view with portrait, and framed the scene with a thin black border that serves to accentuate his two centers of interest. He plans his printing by projecting negatives on a blank sheet of paper, sketching in their outlines with a pencil.

Using **simple photographic techniques, the darkroom worker can arrive at pictures which have the appearance of an artist's sketch. In this set of six prints, Hillar P. Maskar of Chicago demonstrates how a single negative can be the parent of a completely varied set of prints. The first photograph, at upper left, is a solarized positive made from the selected negative. Second print is a paper negative made from that positive. The third print is a positive made by use of the paper negative. Fourth print, lower left, is a duplicate paper positive, but now solarized. The fifth print is a paper negative made from the solarized positive. Final positive print, right, was made from the last paper negative.**

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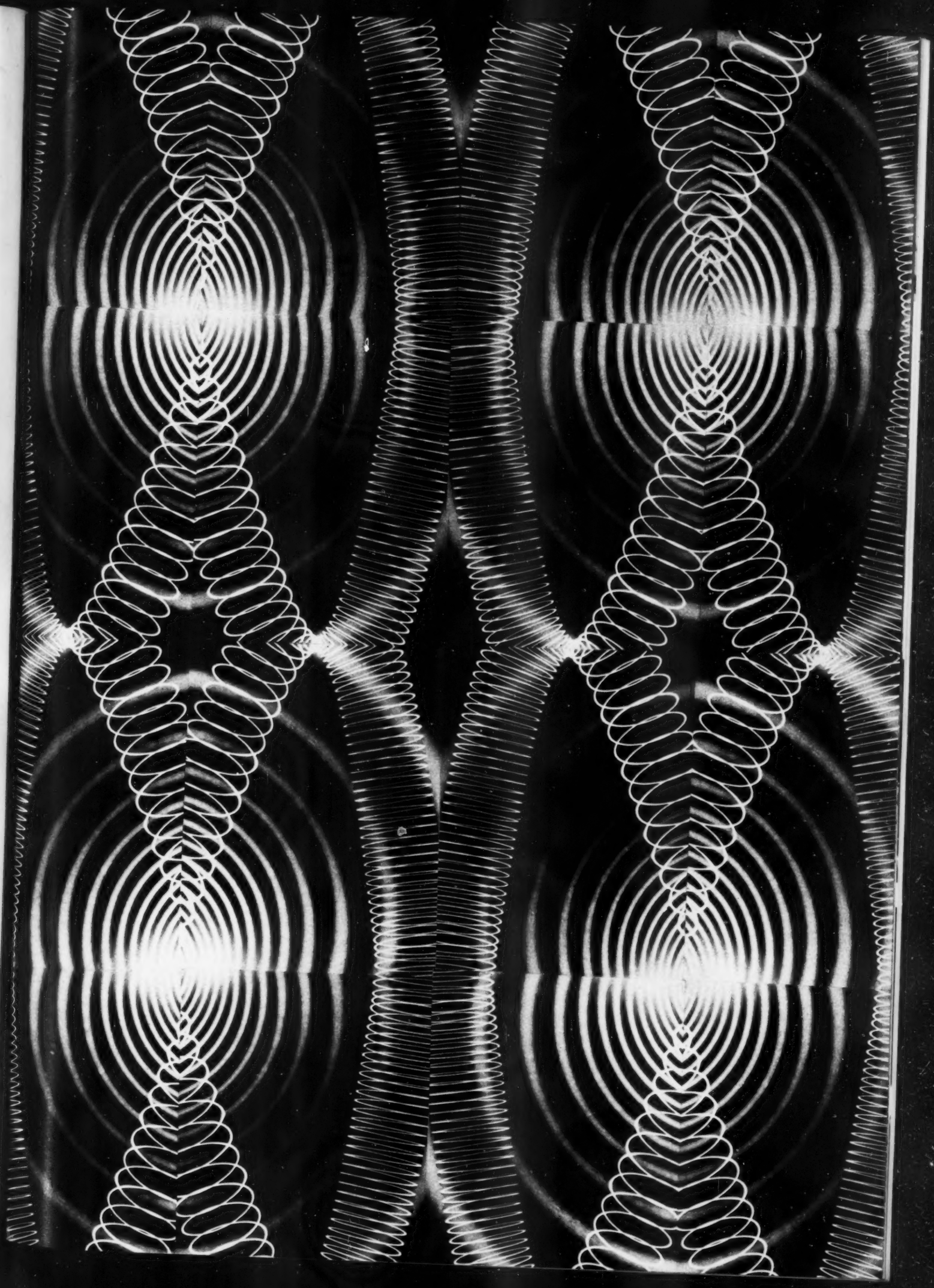
Selective reticulation was achieved here by Robert Elmore of South Bend, Ind. He pre-hardened central area of the negative before treating the film, thus preserving detail in the center of interest while introducing a pattern in the background.

Fascinating in its regularity, this symmetrical arrangement is a mosaic of sixteen prints made from a copy negative of a photogram which had been created by placing a coiled steel spring atop a sheet of printing paper and carrying the end up to the enlarger lens. This design, suitable for a fabric pattern, is by Bob Buchbinder, Chicago.



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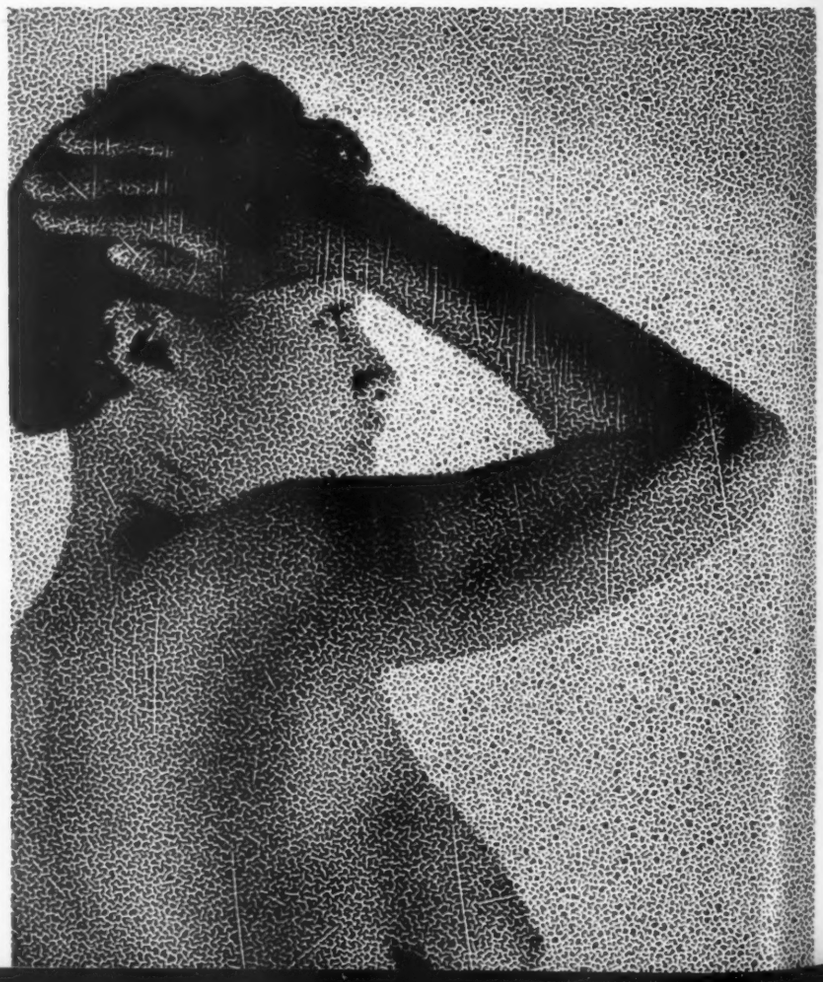
Texture screens can be used to create an out-of-the-ordinary piece of portraiture, as Fred Korth of Chicago has done in this photograph. Both picture and pattern negatives are well balanced; one does not outweigh the other. →

Writhing in tortured coils, this very striking photogram by Arthur Siegel of Chicago's Institute of Design is unusually well done, both in his consideration of composition, and the manipulation of light, shade, and shadow.



Fred Korth's reticulated nude is an example of the effects achievable in your darkroom with nothing more than water baths of varying temperatures. Degree of reticulation is controlled by temperature and length of time in bath.

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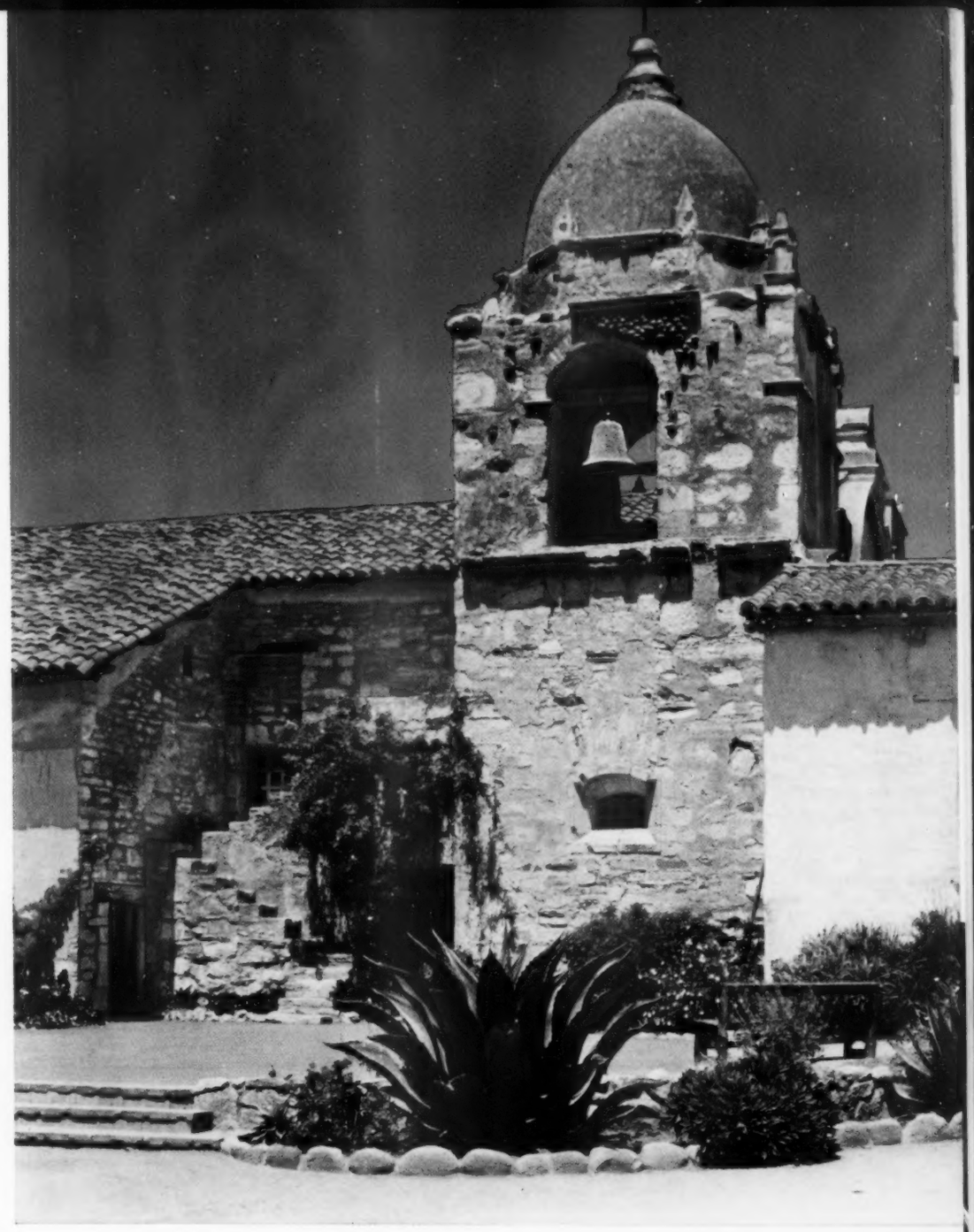
Three exposures were combined by Harry Ittner of Cleveland, Ohio, for his photograph titled *Three Moods.* Such work serves to portray various facets of a model's personality, provides practice in composition.



. . . from
Edward Weston's
first group of
Kodak Ektachrome
pictures

KODAK Ektachrome Film gives you color transparencies of exceptional brilliance... excellent gradation... moderate contrast. Look into the shadows of this reproduction from a Kodak Ektachrome transparency; note how the basic hues hold throughout both the shadow and the highlight areas.

Strictly for user processing, Kodak Ektachrome Film comes in all popular sheet-film sizes and in two types, for daylight and artificial light. Both types of film, and Kodak Ektachrome Processing Kits as well, are available at your Kodak dealer's.

Kodak color also includes Kodachrome Film for most miniature, home-movie, and sheet-film cameras... Kodacolor Film for most roll-film cameras.

It's Kodak for Color

Kodak

BULLETINS

NEWS OF KODAK PLANS AND PRODUCTS

See your Kodak dealer

KODAK products are sold through Kodak dealers, any of whom will be glad to complete the descriptions of Kodak products which are mentioned in these pages. Usually, too, they will give you opportunity for firsthand inspection of the advertised items.

And in matters of general photographic information your Kodak dealer will be found to be well and soundly informed.

Fresh Data—Several of the popular Kodak Data Books are now available in new, completely revised editions.

Just off the press is the Fourth Edition of the Kodak Data Book, "Kodachrome and Kodacolor Films." This is a thorough revision of the material in earlier editions—together with important new material. One important, helpful addition: a summary of the various types of reflectors that can be used in color photography. Most of the illustrations, both color and black-and-white, are also new.

Your Kodak dealer now has the Fourth Edition of the Data Book, "Black-and-White Kodak Films." This book has been increased in number of pages . . . contents have been extensively revised to include new and additional material on exposure guides, Kodak speeds, American Standards exposure indexes . . . illustrations with exposure recommendations added . . . and data sheets brought up to date.

A new, Fourth Edition of the Kodak Data Book, "Copying," includes an extensive revision of text material and data sheets—and a description and drawing of an easy-to-build copying stand, together with diagrams of two types of setups for copying originals, showing correct placement of lamps and camera.

The new Data Book, "Processing and Formulas" (which used to be "Formulas and Processing"), contains several new formulas, and revisions of thirteen others to eliminate desiccated sodium carbonate and substitute the more popular monohydrated form. Several obsolete formulas have been deleted.

Photographic data are good only if up-to date. Glance over these new editions, and see if your personal file of reference material doesn't need a bit of replenishing.

For Color—If you make color prints and use one of the old-fashioned registering methods, you're definitely out of date. The Kodak Dye Transfer Blankets, evolved for use with the Kodak Dye Transfer Process, convert a slow, troublesome job into a swift, precise, trouble-free operation. Once you've used such a blanket to print a set of matrices, you'll never bother with any of the older techniques. The price of these durable plastic blankets is moderate, too—much less than you might expect.

And if you're interested in hand-coloring of prints, either the Kodak Water Color Booklets or the handsome Kodak Transparent Oil Color Outfits will equip you for superior work.

Print Mounting—It's a quick, easy operation if you use Kodak Thermount Tissue and a Kodak Thermount Iron—a small, handy electric iron with an automatic thermostatic control to maintain the optimum temperature for the tissue. Ask your Kodak dealer to show you.

Print Drying—A few fortunate amateur photographers have plenty of space in their darkrooms for a rack of cheesecloth stretchers. Others, the great majority, must keep their print-drying operations on a more compact basis; and for these, the Kodak Photo Blotter Roll is a handy device—with certain virtues that cheesecloth stretchers lack.

This blotter roll consists of two broad strips of white blotting paper, cloth-backed for durability, and of the purity required for photographic use. Each strip is 11½ inches wide and 6 feet long. In addition, there is a corrugated-cardboard strip of the same dimensions to permit air circulation through the roll. Prints properly placed in the roll will dry with a smooth reverse curve, which helps counteract the inward-curling tendency of photographic paper, and facilitates subsequent trimming and mounting operations.

Film Drying—Makeshift hanging devices will get you by until the day when a fine negative, representing a lot of effort and some high hopes, falls on the floor, with the wet emulsion down. Then you'll take a new interest in reliable film clips, especially designed to forestall such tragedies. Kodak Junior Film Clips are so designed—and the sooner you start using them, the safer you'll be.

Family Wash—To insure permanent prints, there's no substitute for clean water, changing constantly throughout the washing period. Approximately the same degree of freedom from hypo can be achieved by shifting the prints through a series of changes of water—but that's a nuisance. You can avoid the shift-and-refill routine by using a Kodak Automatic Tray Siphon on the wash tray, or by slipping an inexpensive Kodak Washing Assembly into the sink drain when you start making prints. Either of these devices provides you with constant circulation of water all the time your prints are washing.

Handy Flasher—The new Kodak Photo Flasher was designed, primarily, to make flash photography feasible for any inexpensive camera that can be set for a "time" or "bulb" exposure. However, this little device will often prove handy to the advanced amateur—even though he already has fine cameras and complete flash equipment. Consider, for example, the outdoor night shot which requires both a time exposure and an extra dash of illumination from some point well away from the camera. Without trailing extension wires, the Photo Flasher can be carried to any point in the scene—or any number of points—to put illumination just where it's needed, from whatever angle it's needed. At the price, it is a gadget which should be in every serious amateur's camera kit.

Those Expiration Dates—Now that warm, damp weather is approaching, a gentle warning about the care of film may be opportune.

Expiration dates on film are computed on the basis of good average storage conditions. But prolonged storage in a hot atmosphere will affect film sensitivity—and long keeping in humid places entails the risk of edge fog. During warm weather, film should be used up promptly. If you *must* store it as much as two months, keep it at a temperature below 75 degrees Fahrenheit. For longer periods, seal it in a dry jar, and refrigerate it.

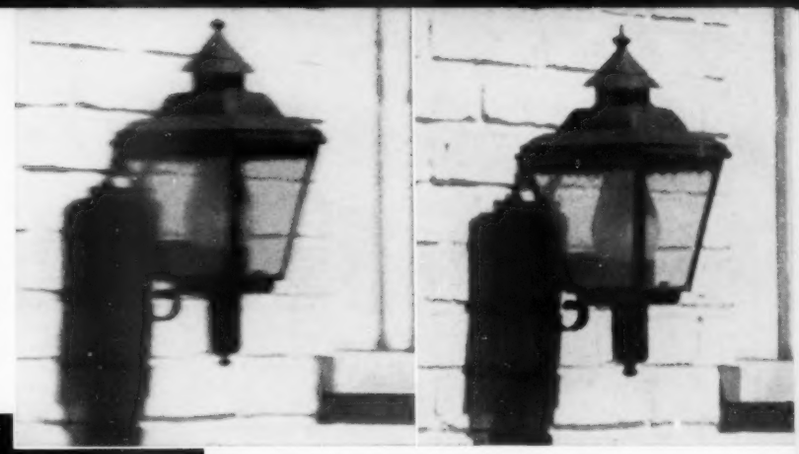
Miniature color film in metal cans, and movie color film packed in sealed metal foil, are well protected against humidity. However, heat and excessive age will upset the color balance. If you must keep such film for a long time before exposure, keep it cool—and don't crowd the expiration dates. And *after* exposure, see that the film is processed without delay, no matter what the weather.

Ask your Kodak dealer about the new Kodak Tri-Chem Pack. It's the newest idea in processing convenience: a 20-cent kit of Kodak Universal M-Q Developer, Universal Stop Bath, and Universal Fixer. Enough for two average-size film rolls, or 50 prints 2½ x 3½ inches. Mix, use, and discard—no storage problem, no stale solutions. If your dealer doesn't have it now, he will—very soon.

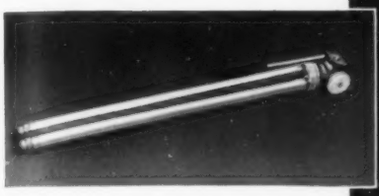
Steady As You Go

WABBLING CAMERAS don't make sharp pictures. Your hand may be as steady as anybody's—but how steady is that? Even at a shutter speed of 1/25 second, the risk of camera movement is considerable—and a very slight movement of the camera will do a great deal of harm. Furthermore, camera motion blurs the whole picture, not just a part. At any shutter speed slower than 1/25 second, a steady support for the camera is generally regarded as essential.

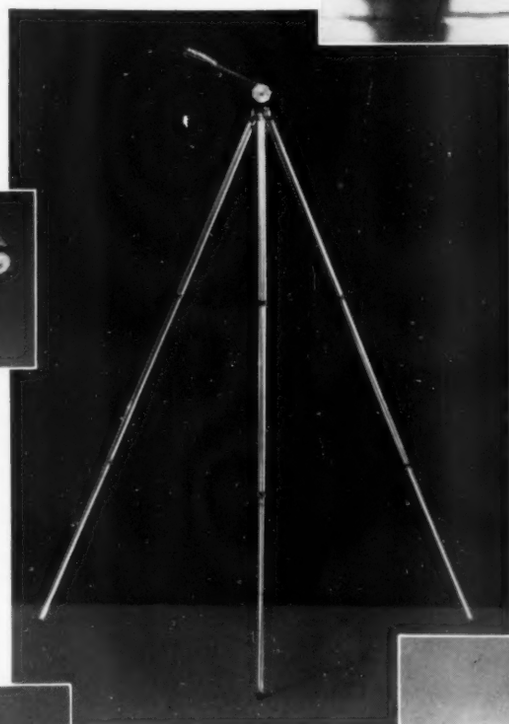
Kodak offers you numerous aids to camera steadiness—each with its special advantages and points of usefulness. From this page, select the ones that best fit your needs. You'll be the gainer.



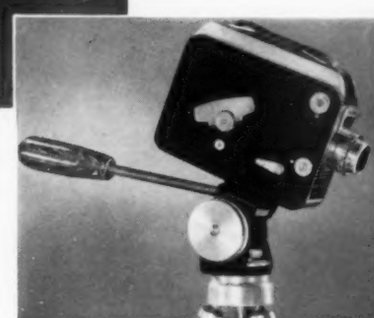
SUPPOSE a contact print seems sharp—yet enlargements prove "mushy." These illustrations (from the book "This Is Photography") help explain why. They're small sections enlarged from two negatives of the same subject. At the left, 1/25 second; at right, 1/100 second, with the same lens. Camera motion, obvious upon enlargement, has destroyed all the definition in the 1/25-shot. If the camera had been on a tripod, both shots would be wire-sharp.



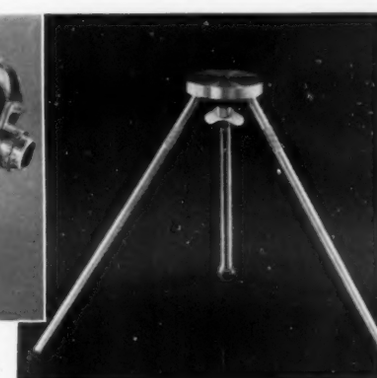
Legs of the featherweight Kodak Eye-Level Tripod (above and at right) are joined to the tripod head by ball-and-socket fittings. These limit the spread of the legs to 30 degrees from vertical—thus insuring that this tripod won't collapse when set up on a slippery floor. It's an important feature to the owner of a finely made still or movie camera.



THE Kodak Eye-Level Tripod (left), with its accessory Turn-Tilt Head for movie panoraming or quickly adjusting a still camera to any desired angle, is ideal for the camera enthusiast. Featherlight, the tripod weighs only two pounds. Its legs of sturdy aluminum tubing extend to a full 60 inches—but close down to only 22½ inches for carrying (far left). Below, left, a close-up of the smooth-working, smartly designed Kodak Turn-Tilt Head, which offers 180 degrees of vertical panoraming and 360 degrees of horizontal panoraming. Tripod and Turn-Tilt Head are engineered to provide firm support for any of the more popular still and movie cameras.

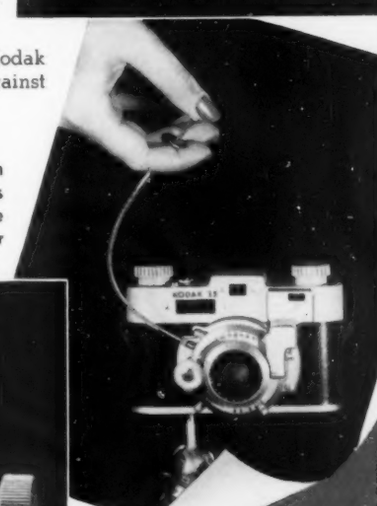


THE rugged Cine-Kodak Tripod (at left) has its own built-in head for vertical and horizontal panoraming. Note telephoto lens on camera; with such long-range lenses, a rock-firm tripod is essential.



Indoors, the Kodak Table Top Tripod finds many uses →

FOR any long exposure—and even short ones—a flexible Kodak Metal Cable Release (at right) offers additional protection against camera motion. Use it instead of the lever release.



BELOW, LEFT, the compact Kodak Optipod. It clamps on a chair—or table—or screws on a tripod—and supports your camera at any desired angle. Below, right, the Kodak Tilt-a-Pod; it adds any-angle flexibility to your tripod.

HERE'S the right way to set up a tripod:

Extend the tripod legs to the desired length. Near the top, grasp one leg of the tripod in your right hand, one in your left, and spread them in a "V." Face the scene, and plant the remaining leg in front of you. Now step back one pace, and bring the other two legs of the tripod down at your left and right.

Kodak

Controlled Light vs. Lens Flare

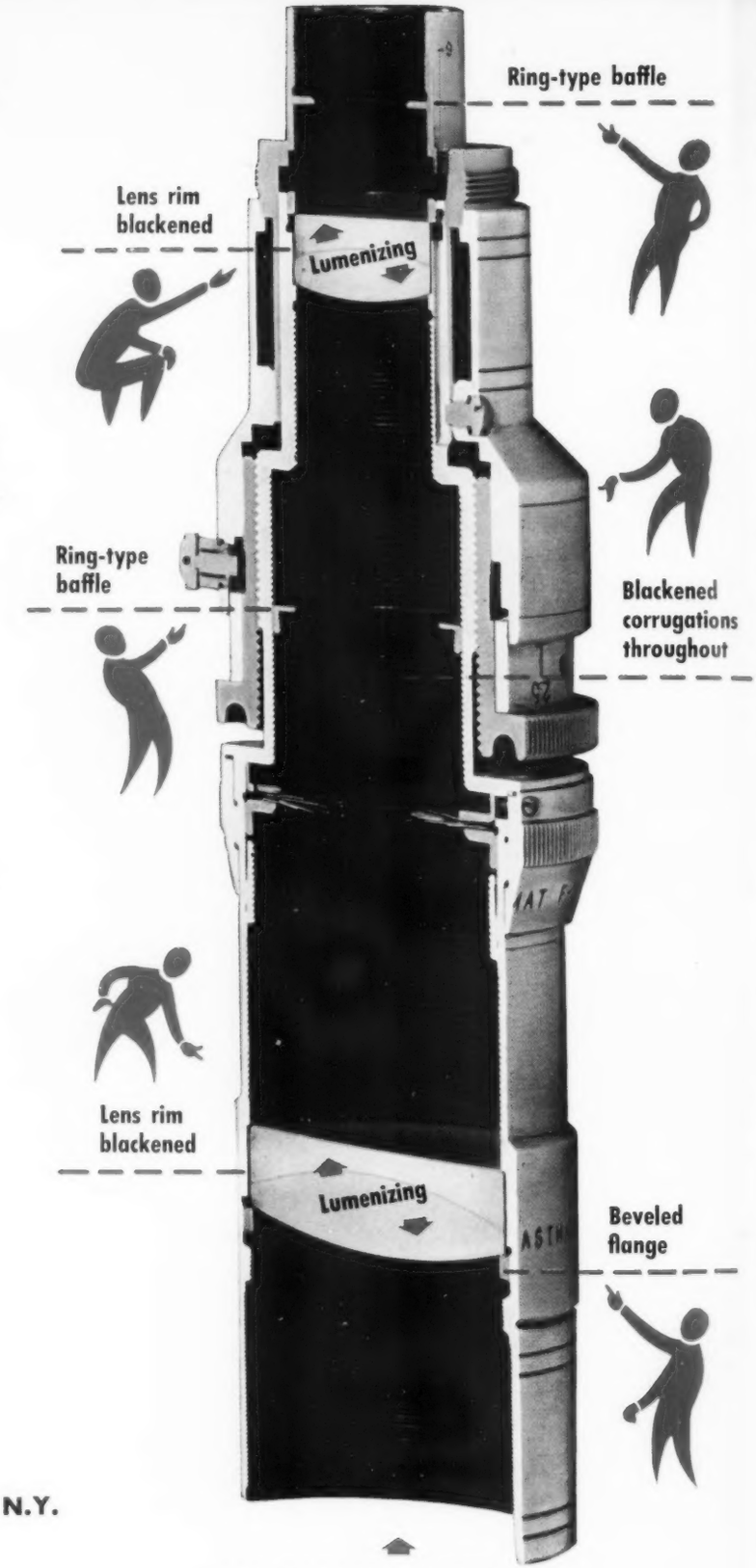
Kodak fine lenses control the flare-producing light rays . . . to insure better contrast in your negatives . . . greater color purity . . . better detail in the shadow areas.

How is this light control accomplished? By *Lumenizing* all glass-air surfaces with a hard lens coating; by sharp-edged rings, called baffles, carefully positioned inside a long lens barrel; by blackening the lens-supporting flanges and rims of thick glass elements; by corrugating and blackening the inside surface of the lens barrel.

The Kodak system of light control in lenses holds lens flare to a minimum . . . traps stray light rays that would otherwise be reflected by the inside of the barrel . . . transmits a maximum of effective image-forming light . . . *gives you better pictures.*

Whatever your picture activity . . . action photography, informal portraiture, landscapes, full color, enlarging, screen projection . . . make use of the best that optical science can offer—a Kodak lens.

Eastman Kodak Company, Rochester 4, N.Y.



ALL GLASS-AIR SURFACES

are Lumenized—ultrahard-coated the Kodak way—to minimize reflection and increase light transmission.

Note: *To indicate clearly how Kodak lens engineering controls stray light—holds flare to a minimum—the illustration above shows a long-focus lens.*

Kodak

HAZARDS of the CELLAR DARKROOM

By ERIC WAHLEEN

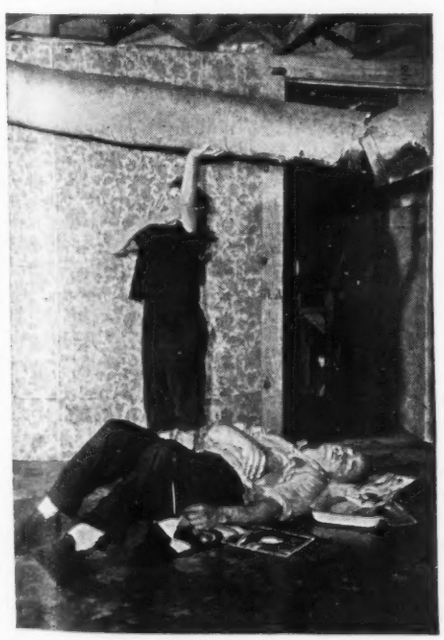
PROMINENT on the list of basement darkroom hazards is the low hanging furnace pipe. Prominent, that is, after you bash your head on it—never before. Efforts to raise, remove, reroute, or eliminate the pipe are fruitless; even moving the darkroom is useless. The day always comes when you charge out of the darkroom, a precious enlargment in hand and suddenly find yourself on the floor, looking up at a pipe which used to be in another corner. As often as not, the enlargement is wound around it.

In time the pipe will be shaped to a perfect reverse image of your head; your hair becomes thin on top, you duck instinctively each time you pass it; your forehead becomes calloused, and you learn to allow friends to preceed you out of the darkroom just for the sport of the thing.

The best defense against the furnace pipe hazard is efficient organization and drill. Have your family prepared at a moment's notice to administer repairs and first aid; keep equipment and bandages at an assigned post. Above all, keep calm, cool, and relaxed.

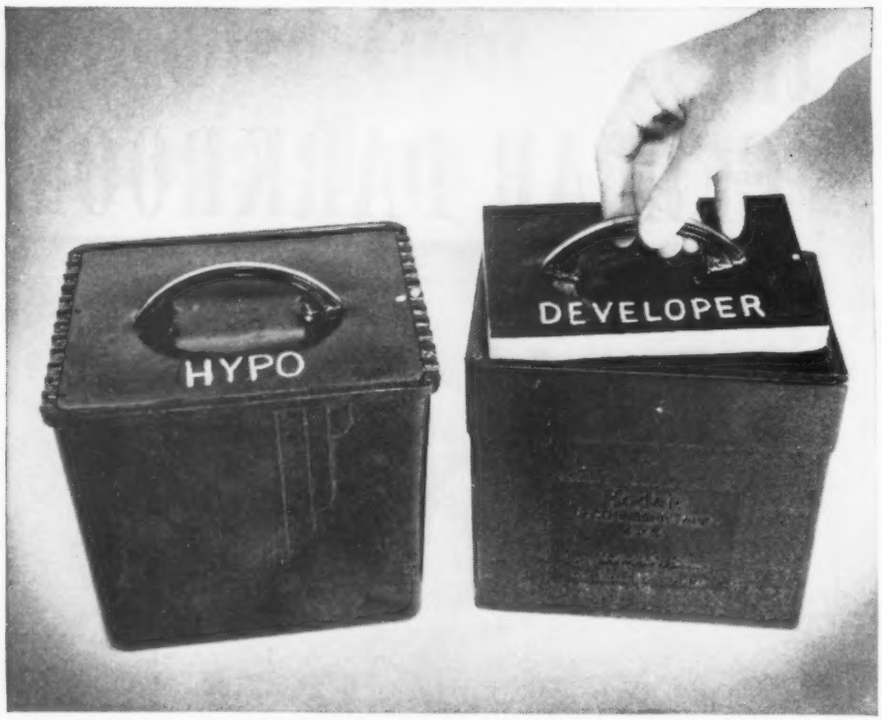
Or, possibly, develop your pictures in the attic.—

No furnace pipe on earth can resist the impulse to cool a photographer's enthusiasm as he charges out of the darkroom, eager to show off his evening's work.



A well-trained family rushes to give first aid to both pipe and photographer.

It happens every night, eventually eliminating hysteria and emotion in the family. In fact they will probably get bored in time and let everything drop.



Each tank has its own lid, custom-built to fit. The sturdy handle makes it easy to replace lids in total darkness; white lettering provides quick identification by safelight.

Materials and tools for making the lids are inexpensive, quick to assemble for use.

FLOATING LIDS

. . . for your film tanks

It's easy to build yourself a complete set of snug-fitting lids that will protect your solutions from exposure to air

By DOROTHY HAMILTON

This excellent story on an interesting darkroom procedure calls for special comment, we feel, as an example to amateurs of thorough treatment of a home construction article. In addition to a well-written text, the accompanying picture sequence illustrates each step with clear, sharp photos covering every necessary detail. Miss Hamilton tells the reader how to make floating lids—her own invention and at the same time gives a convincing demonstration of how to write and illustrate a first-rate picture story.—Ed.

WANT TO streamline your darkroom? Here's an item that's a time and money saver and can be constructed at home with a minimum of effort—a complete set of floating lids for all of your developing tanks. Since factory-made floating lids are available only with large, expensive developing units, most photographers either have to content themselves with make-shift lids for their small tanks, or have to take time to pour chemicals back into storage bottles immediately after use, often when even this short delay is inconvenient.

For photographers who like to construct their own photo gadgets, floating lids can be made easily at home with no special skill required. The average cost per lid is 25 cents, using only materials and tools on hand in workshop and kitchen. Irregular size and shape of tanks offer no difficulty in the construction of these lids since each individual tank is the mold for its own lid. It quickly conforms to the tank, compensating for any irregularities or imperfections. These lids can be made for plastics and hard rubber tanks as well as for those from storage battery cases.

This new paraffin floating lid is ideal because the fit of the lid is perfect, it floats on top of the chemicals, eliminating any air space which could cause deterioration through oxidation. Chemicals may be mixed right in the tank and stored safely until needed, because the paraffin does not contaminate the contents. For further protection the lid is painted black, excluding all light. The lid does not absorb chemicals and is easily cleaned by simple washing.

Large, white letters on the black surface of the lids make it easy to identify quickly and accurately the contents of the tanks. The sturdy, convenient handle facilitates replacing the lid in the tank in total darkness, immediately upon removing the film hangers, thus protecting the chemicals from even a short, unnecessary contact with the air.

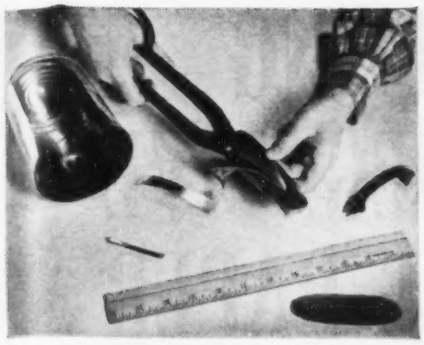
This new type of floating lid is especially desirable to the busy photographer due to the speed and ease of construction, durability, and satisfactory results.

Follow these simple instructions and make your own set in a single evening's work.

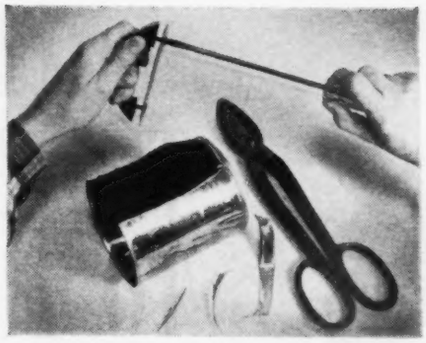
There will not be sufficient time between pourings of wax to affix the metal base to the plastics handle; this must be done in advance. The finished handle may then be set aside ready for instant use when needed.

Using tin snips, cut out of the tin can a strip 2 inches wide and the length of the can, to allow enough margin for cutting to shape. With an ice pick trace an oblong pattern on the tin, 1¼ inches wide and slightly longer than the over-all length of the plastics handle. Again using the tin snips cut along the traced line, rounding the ends of the tin to form a smooth curve.

Measure the distance between the screw holes in the plastics handle, space evenly on the tin strip, mark, and then using the ice pick punch a hole in each end of the tin. Do not make the holes



Base of handle is cut out of tin can as shown. A completed piece is at lower right.

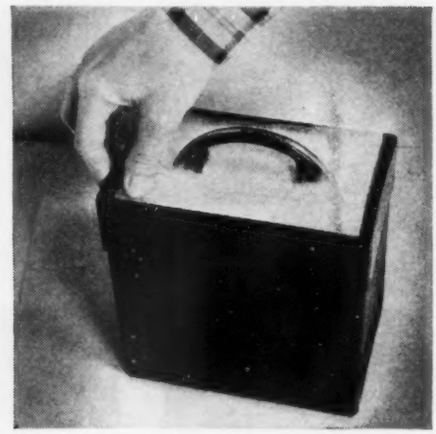


Grip and base are bolted together with screws, leaving a ½-inch gap for wax seal.

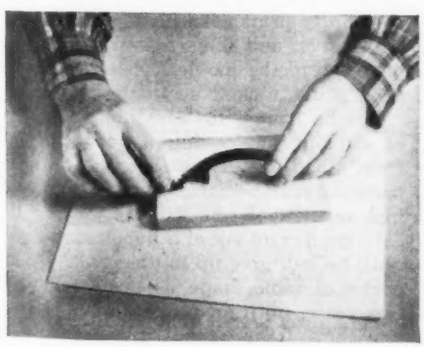
Level of tank is checked with bubble before pouring to prevent wedging of lid.

Melted paraffin is poured from saucepan to form base on the surface of water.

Handle is pressed into lid before cooling so that wax seals off all metal parts.



After cooling, the lid can be freed by pressing each of the four corners gently.



Razor blade is used to scrape the top smooth for painting. Sides are not shaved.

Undercoat of white is applied, then covered with coat of black enamel when dry.

Lids are lettered in white. Dot on edge matches dot on tank for proper positioning.

too large as the screws must fit tightly and hold firmly.

Turn the screws through the holes until the heads of the screws are flat up against the tin, then fasten the screws in the ends of the handle and turn until they form a shaft ¼ inch long between the ends of the handle and the tin base. When completed this should form a rigid unit. The successful construction of the lid depends, to a great extent, upon the rigidity of the handle, so care must be taken to see that it is firmly put together.

Now that the handle is ready and waiting you can start the main job of making the floating lid. The tank which you have selected to equip should be filled with water to within ¾ inch of the top. The water should be only moderately cool; if it is too cold the wax will harden immediately upon contact and will cause the bottom of the lid to be lumpy and uneven.

Set the tank on a flat surface and place the spirit level on top, running lengthwise. If it is not perfectly even, level with scraps of cardboard placed underneath the tank. Repeat the procedure with the level *across* the tank. This is an important step as the wax will not harden perfectly even unless the tank is level. Now the tank must *not* be moved until after the final pouring of wax is completely *cold* and *hard*. Even a slight movement of the partially cooled wax would result in an uneven lid.

Note: The amount of wax needed for each lid can easily be determined since it comes in bars very near the thickness of the finished lid, which will be ¾ inch thick. Multiply the dimensions of the width of the tank by the length. Measure the flat surface of the bars of wax and take the same number of square inches which will be the amount of wax needed.

Melt the wax completely in a small, saucepan until it is entirely liquid, then pour carefully and rapidly over the water, letting it flow over the surface to assure a smooth, even base.

Allow the first layer to cool and harden until it barely gives to the touch. Then place the handle exactly in the center of the wax lid, running lengthwise. Be sure that the handle is straight and not lean-

(*Continued on page* 170)

Properly printed and processed, this picture of pilot Elizabeth Hooker has full, rich tones.

FITTING THE NEGATIVE TO THE PAPER

Good prints just don't happen! Study these pictures and learn how to classify your negatives

By JAMES E. MARTENHOFF

1. An overexposed and overdeveloped negative.

2. An overexposed and normally developed film.

3. An overexposed, underdeveloped negative.

4. A normally exposed, but overdeveloped film.

5. This is a normally exposed, developed film.

6. A normally exposed, underdeveloped film.

7. This is underexposed and overdeveloped.

8. An underexposed and normally developed film.

9. This is both underexposed, underdeveloped.

IT IS only too easy to print the wrong negative on the wrong paper. One of the hardest things for the average beginning photographer to learn is negative inspection and evalution. The beginning photographer sees all about him evidences of good prints and good pictures. All of the photographic magazines constantly print good pictures, pictorially expressive, and if he ever takes a night off to go to the movies he sees plenty of good prints tacked up in the lobby.

But he has an understandable amount of difficulty in telling a good negative from a bad one. He has no basis of comparison, and because a picture pleases him aesthetically he will try for hours to get a good print out of a hopeless negative until he will give up in disgust. A young friend of mine made no good prints for two years, until an acquaintance showed him that all his negatives were consistently underdeveloped to the point where they wouldn't make good prints on the hardest paper obtainable. So simple a thing as two extra minutes in the developer cured all his troubles.

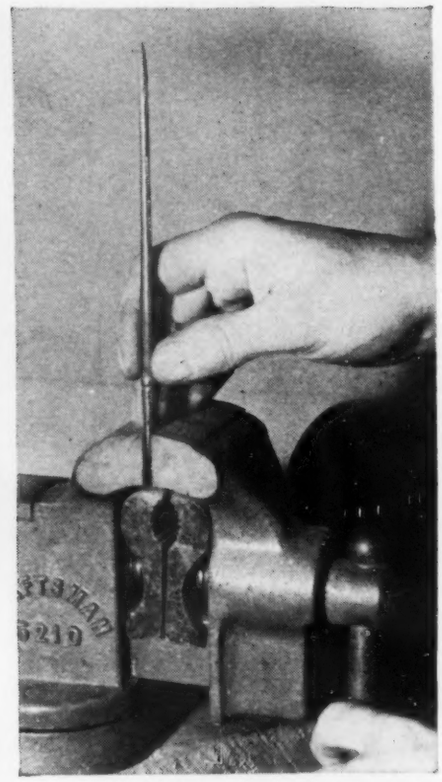
All of the literature available through the kindness of the manufacturers, who have the wit to realize you have to be pleased with your product, or you'll stop buying theirs and take to knitting as a medium of self-expression, tells you volumes about everything else but too little about selecting the proper grade of paper. Experimentation is a poor suggestion, because the average amateur of my acquaintance doesn't care to spend two dozen sheets of paper making grey scales and playing with contrast and a test negative, so it's a pretty sure thing you don't want to either.

To make sure your troubles in producing snappy prints are not those of technique, let's review them briefly:

The manufacturers know their busi-

(*Continued on page* 178)

Hold the bristle end of the brush over the flames until the hairs fall out, but be sure not to have the metal ferrule too close to flame, else tip will come loose from the wood.



Place ferrule in vise and tighten until slit in end is thickness of a razor blade.

MAKING AN ETCHING KNIFE

By WILLIAM K. BOYLAN

IF YOU want an excellent knife that can be used for etching, print trimming, frisket work, cutting model airplane wood, and numerous other uses, it can easily be made from an old retouching brush, a discarded razor blade, a little solder and very little work. It fits the hand well, is light, and looks like a store-bought product.

The first thing to do is to get an old brush or brushes (I went to a newspaper art department and was given a dozen or more of them) and take the bristles out. This was done by holding the brush end over a gas flame, for after it gets quite hot the bristles will blow out of the ferrule. Be careful, however, not to get the flame too close to the wood as it will burn it and make the handle loose.

Then put about ½ inch of the ferrule in a vise or hammer it almost flat or to the approximate thickness of the blade you are going to use, then drill a hole about 1/16-inch diameter, 1/16 inch from the end in the flattened sides, which will help hold the blade rigid in the ferrule when it is soldered to it.

Put the old razor blade in a vise, tighten it, and hit the blade a sharp rap with a hammer. It should break fairly straight, but it may take a little grinding on an emery wheel to make it fit.

Then clean the blade and metal of the brush well, and coat it with soldering flux, put the blade in the ferrule, at least up to the hole, and tighten a little by tapping with a hammer or in a vise.

Now solder from the hole to about ⅛ inch over the blade.

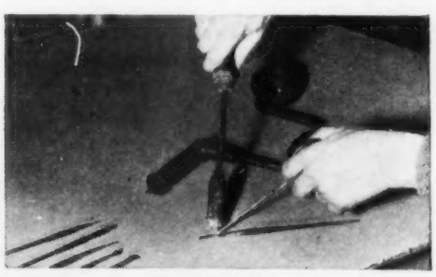
The final step is to shape and sharpen the blade in any of several sizes and shapes. An emery wheel with a fine dust works very well, but be sure you dip the blade in water often to prevent burning. Finish the sharpening on an oil stone.

I have found that a single edged blade, because of the thicker steel, works better than the double edged. An old saw blade or thin tool steel can also be used to make a blade.

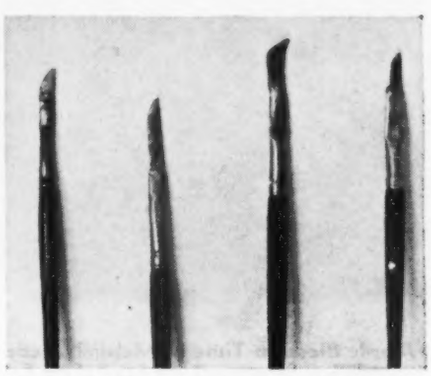
If the blade gets broken or becomes too short from repeated sharpenings, you can heat the ferrule to melt the solder, pull out the old blade and put in a new one.

Drill a tiny hole near end of ferrule. This helps the solder fasten in the blade.

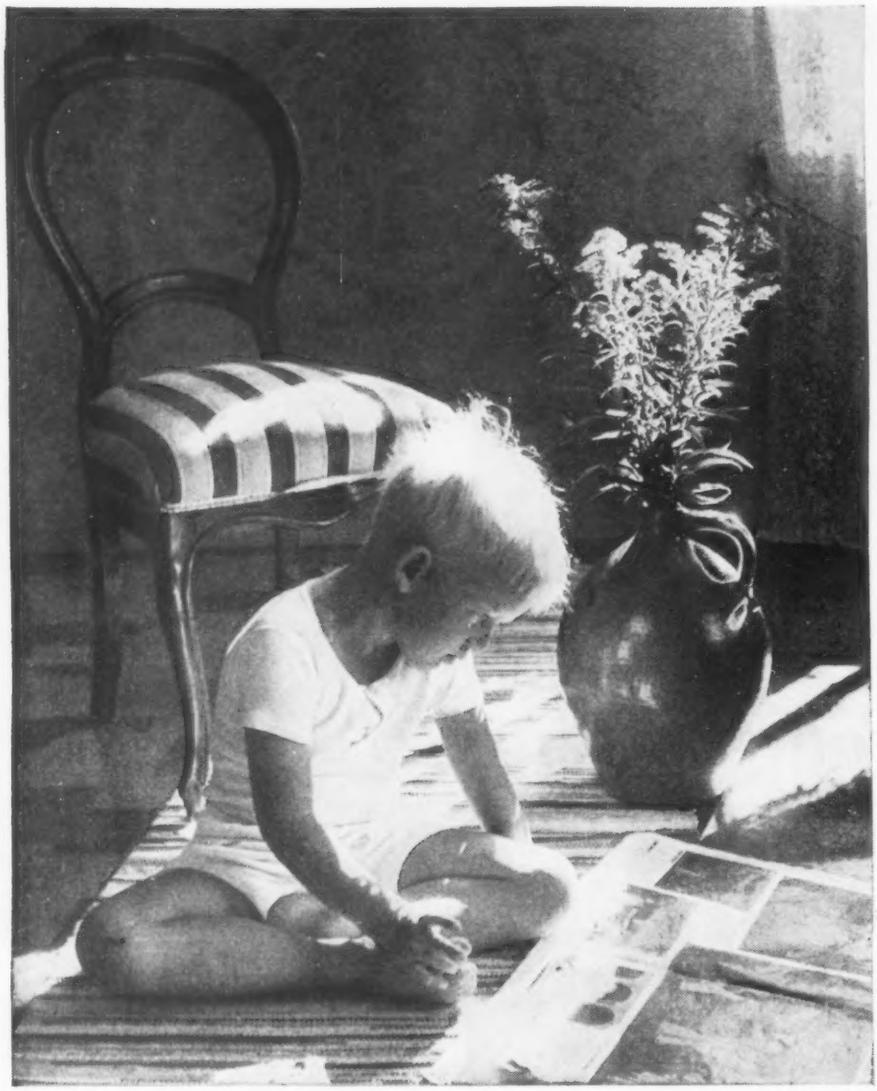
Clamp razor blade in vise, rap it with a hammer to break off piece to use in knife.



Insert razor blade in tip, apply solder.



Blades can be ground to various shapes.



Anticipation is the work of H. P. Haddan of Coffeyville, Kansas. He used a 4 x 5 Speed Graphic, Triple S Pan, f/16, 1/50.

When I Grow Up . . . was made by Donald T. Stirk, army photographer. Super Ikonta B camera, Super-XX, 1/400 at f/22.

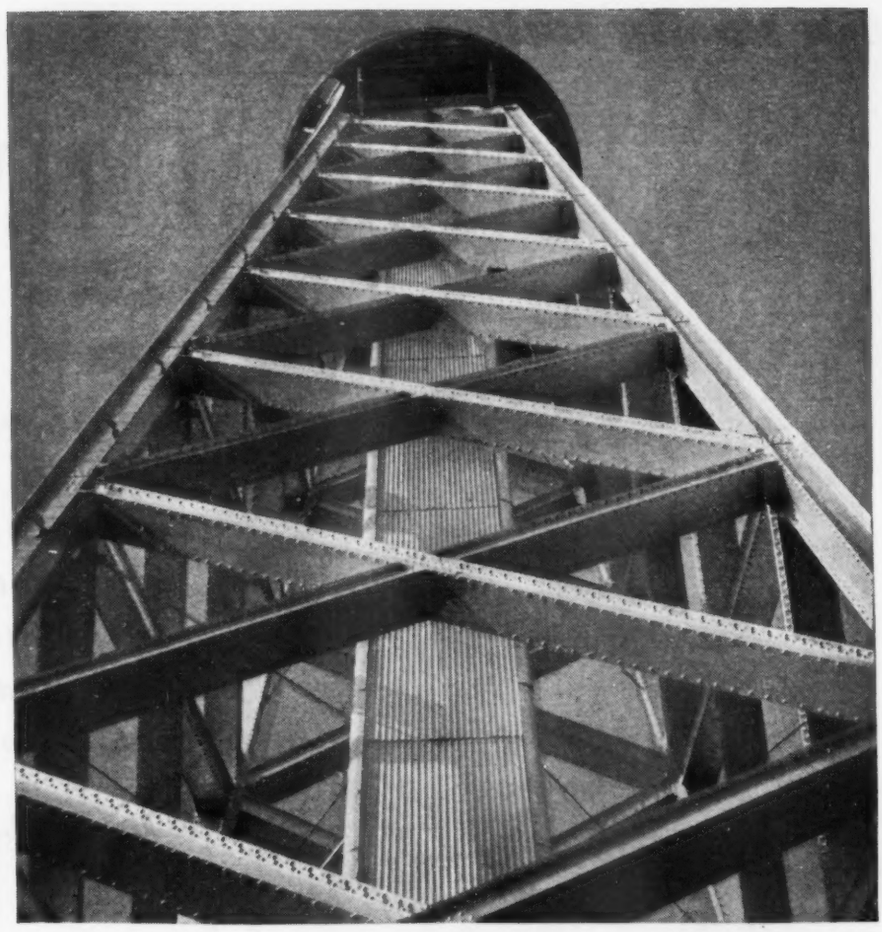
1

The Boy and the Magazine is by Goran Littke of Gothenberg, Sweden, and was made with a Rolleiflex. Littke is a photographer, and works for a Swedish shipyard making pictures of boats and men. This child shot was made for his own pleasure when spending a week-end in the country and is a delicate and beautiful piece of work. Ansco Superpan Press film, f/2 aperture, 1/25.

Apple Blossom Time by Melvin N. Federlein of San Francisco, was taken in Sebastopol, the heart of the California apple country. 2¼ x 3¼ Busch Pressman, Ansco Isopan, red filter, at f/22, 1/10.

Communion Morning was made from the bedroom window of Pierre Charbonnet, PSA, New York City, and is a fine documentary shot. Voigtlander Avus, Triple S Pan, shot at 1/100, f/12.

Peasant Girl was photographed by Roger Wyckoff of Riverside, Ill., using a 2¼x-2¼ Speed Graphic, Super Panchro Press, a medium yellow filter, and at f/11, 1/50.

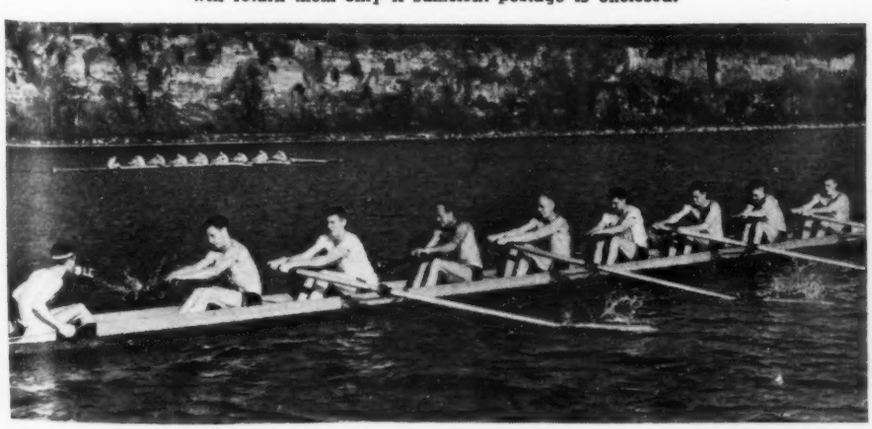


This odd up-shot, titled The Giant's Stepladder, is the work of Lorna L. Squires of Inglewood, California. It was made at the base of one of the towers atop Mt. Wilson, when the light effectively rendered detail. She used an Argoflex camera, Ansco Superpan Supreme film. Exposure was 1/25, f/11.

2

PICTURES FROM READERS

All photographs submitted for this department should be accompanied by technical data, and the sender's name and address must appear on the back of each print. We will return them only if sufficient postage is enclosed.



Big Red, a view of Cornell University's crew is a sharp and well-caught action study. The shell in the background, and the far shore line add depth and dimension to the scene, taken by Bill Ficklin of Ithaca, N. Y. Speed Graphic, yellow filter, Plus-X, f/8, 1/100.

East River, by E. Lensing of Chicago, is an attractive waterfront study. Rolleiflex, Superpan Supreme, f/16, 1/100 sec.

An Easily Built

INTERVAL TIMER

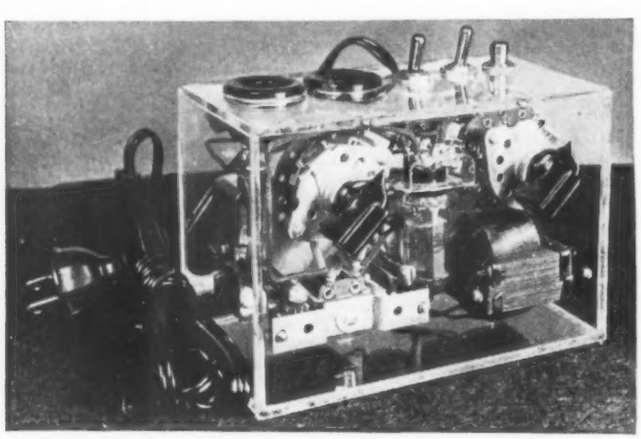
Timer in use with enlarger is shown above. After set time has elapsed, the enlarger light is switched off, safelight on.

A little work and a few dollars are all you need to construct an electronic timer that will shut off your enlarger or printer at any pre-set time and repeats an interval as often as you desire

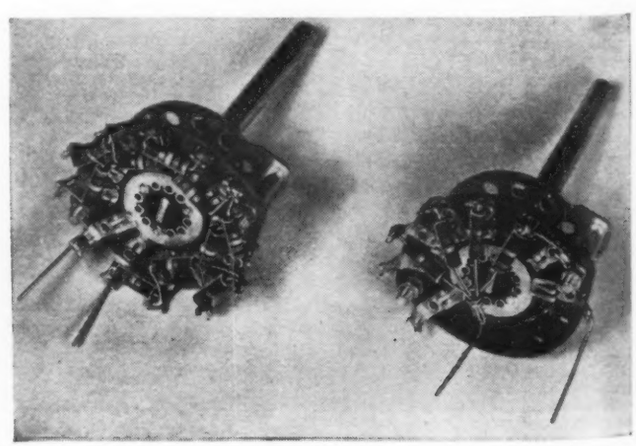
***By* WILLIAM M. CARSON**

AN ABUNDANT offering of accessories and gadgets is prevalent in the photographic field today, but I believe the circuit-controlling short-interval timer is without a doubt one of the most practical and generally useful items to make its appearance in a long time. At present, there are two principles used in the devices on the market—the synchronous motor-driven and the vacuum tube style. Of the two, the electronic model is the simplest for the amateur to construct in his home workshop. The motor-driven timer could be made in the home, but it involves the problem of gears, springs, and rather intricate metal work which is beyond the scope of the average layman. The electronic device is a simple circuit and involves a minimum of metal work none of which is difficult. Furthermore, the competent parts are easily obtainable to exact specifications at a relatively small expenditure.

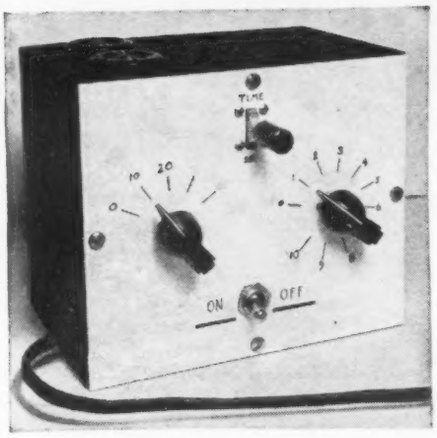
Briefly, for those who may not be familiar with this type, the controlled-circuit timer is a small metal (or wood) box which has either a large hand or several radio-style knobs to set for the desired time interval in seconds. Seconds are used as the unit of measure because photographic projection printing with modern condenser enlargers is a matter



Lucite case is used to show how parts are arranged inside timer. In actual use, lucite can be replaced by metal or wood.



Timing of the operation is controlled by these two sets of resistors, one wired in series (left) and the other in parallel.

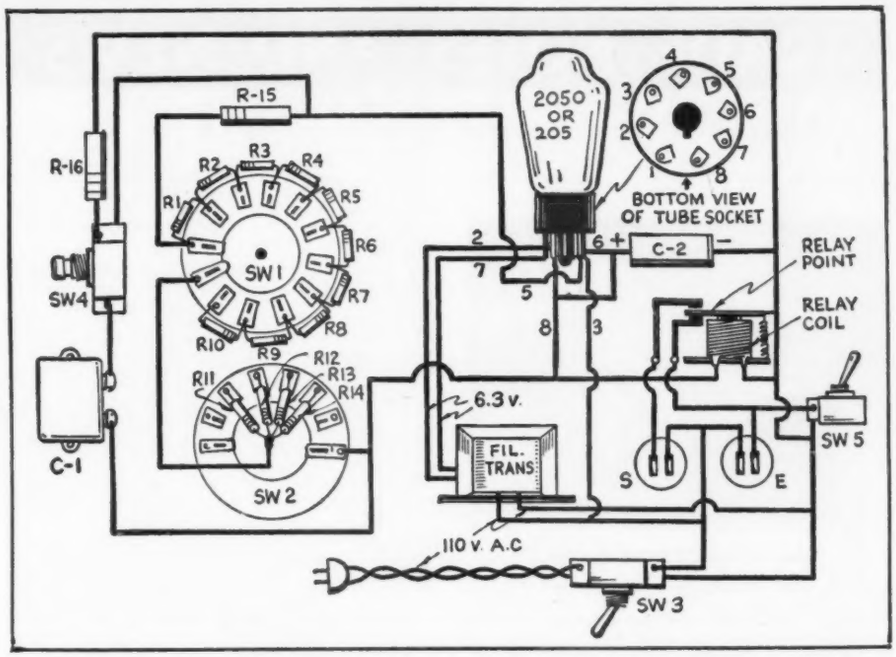


Modified version of timer combines push button and toggle switches into a single lever-type switch to simplify operations.

of seconds, and it is seldom that more than 60 seconds exposure is required. To use the timer, an electric cord from the timer proper is plugged into a 110-volt light receptacle. Next, the light plug from the enlarging machine is plugged into a receptacle on the timer. (In some models an additional receptacle is provided on the timer for a safelight. And on still others, another receptacle is furnished for a foot switch or other form of extension control.) With the enlarger plugged in, you are ready to print. The dial (or knobs or hands) are set for the desired time interval. For example, you have a negative in the enlarger which requires 10 seconds to make a proper exposure for a given enlargement on a given paper. When the paper is in place, a button is pushed (or in some models, a switch is thrown) and the device turns on the light source, allows it to remain on for the selected 10-second interval, and then automatically turns off the light. It is as though there was another man in your darkroom alongside you who turned the switch on, counted out the exposure, and then snapped the switch off. Without winding any springs or resetting of any sort, the button can be pushed again and the same exposure will be given. One or one hundred exposures will all be precisely the same time interval. For printing a quantity of prints from the same negative, or from negatives of the same density, every exposure will be exact and the tone of all prints will be the same, provided, of course, that development is identical. Using an automatic timer will leave you to concentrate on your printing and developing technique, rather than having your mind burdened with "one-thousand-and-one, one-thousand-and-two" or "one rhinoceros, two rhinoceroses, etc." The device also can be used with a contact printer and can be wired to operate when the platen is depressed over the negative.

As can be surmised, the timer described is somewhat costly for the average amateur photographer to buy. Prices range from the neighborhood of $20 to $50, and considering everything, they are not

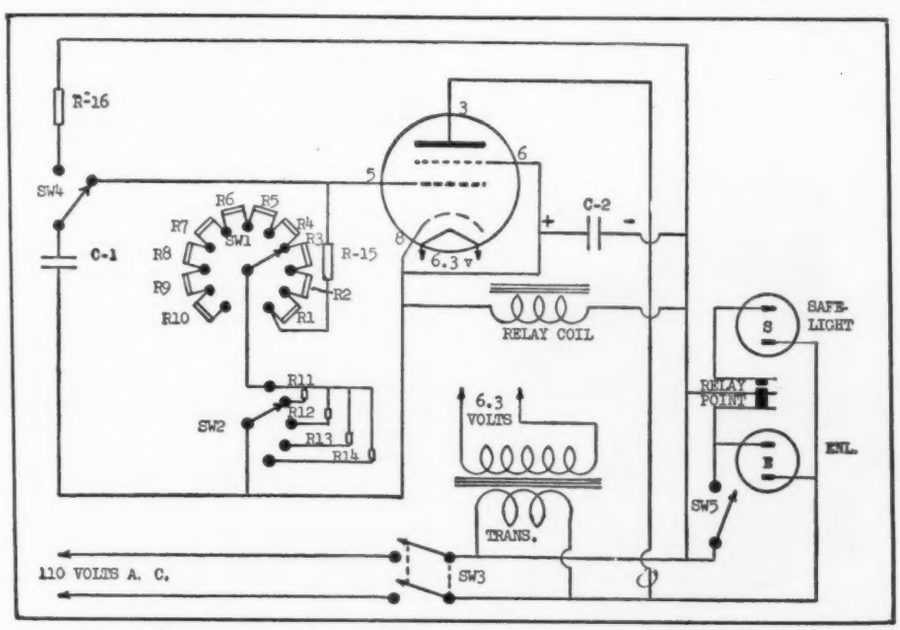
(*Continued on page* 110)



Pictorial layout can be used as an aid in wiring. Parts listed above are drawn in outline with wiring indicated to help beginners in visualizing completed aspect of the timer.

PARTS LIST

R1 to R10	300,000 ohms, ½ watt
R11	3,000,000 ohms, ½ watt
R12	6,000,000 ohms, ½ watt
R13	9,000,000 ohms, ½ watt
R14	12,000,000 ohms, ½ watt
R15	1,200 ohms, ½ watt
R16	5,000 ohms, ½ watt
C-1	2 MFD, 250 volt (midget paper or oil-filled condenser)
C-2	10 MFD, 250 volt
SW1	11 position rotary switch (Centralab 1403)
SW2	5 position rotary switch (Centralab 1401)
SW3	DPDT or DPST ON-OFF switch
SW4	SPDT push button switch
SW5	SPST,, focus switch
TRANS.	110 volt pri., 6.3 volt sec., filament transformer (Thordarson T19F80)
RELAY	2,500 ohm plate circuit relay with SPDT contact point (Staco MR-2)
TUBE	Type 2050 or 2051
CABINET	4x5x6 inches, metal
SAFELIGHT AND ENLARGER	a-c receptacles
MISC.	6 feet 2 conductor wire 20 feet single strand No. 20 wire 1 male 2 conductor a-c plug 1 octal tube socket solder, screws, nuts, washers



Schematic diagram is easy to follow even for an amateur electrician. Relay contacts shown above are in this position when the relay is not energized, and the enlarger light is on.

TRADE NOTES AND NEWS

A NEW SERIES OF CAMERAS is announced by Camera Corporation of America with the new Perfex model 101 with an *f*/4.5 Wollensak coated lens, and an Alphax

Perfex 101 with f/4.5 Wollensak lens.

shutter, with speeds to 1/500 second. These new cameras, except for the focal plane shutter, are much like the present Perfex camera, but retail for only $39.99, with the same camera having shutter speeds up to 1/200 second and an *f*/3.5 coated lens retailing at $49.99. For additional information, write to the manufacturer at 844 W. Adams St., Chicago 7, Ill.

A DE LUXE MODEL Action-Lite is announced by the American Products Co., with their Models 503 and 504. Model 503 fits all movie and still cameras, and has the lamps above the lens level. The sockets have individual switches and are swivel-mounted for vertical and horizontal adjustments. A unique feature is its ability to fold up to fit gadget bag or pocket. Model 504 is the super model for better color and black-and-white movies or stills. This model is also collapsible with each of the 4 lamps with its own switch and swivel-mounted sockets. Unit comes complete with 10 feet of extension cord. Write the manufacturer for additional information and prices, at 2287 Hollers Ave., New York 66, N. Y.

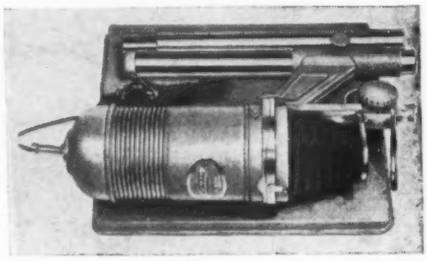
AN INEXPENSIVE FOLDING CAMERA is announced by the Spencer Company, 711 W. Lake St., Chicago 6, Ill., in the new junior model Spartus. This new camera has a plastics case and metal trim. It takes 8 exposures on full size 127 film. The camera is designed for instantaneous and time exposures. Available accessories include a carrying case for camera protection. The price is $8.95 including tax. Write to the manufacturer for complete information.

A NEW SLIDE PROJECTOR is presented by the Three Dimension Sales Co. in the new TDC Vivid 2x2 inch slide projector. Foremost features include range from 150 to 300 watts, a new shutter-type slide carrier which cuts off light while slide changes. The slides feed from right side and eject on left, and the carrier centers ready-mount

TDC Vivid employs shutter-type carrier.

or glass-bound slides in same focal plane. Other features include minimum light spill, quickset tilting, pointer apertures, microfocusing, and wide-base stability. The unit with 150-watt lamp and 5-inch focal length *f*/3.5 lens retails for $39.75. For complete details, write the manufacturer, 4555 W. Addison St., Chicago 41, Ill.

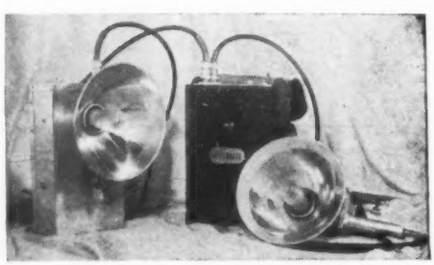
BATHROOM PHOTOGRAPHERS can now obtain a store-away enlarger, the Federal Manufacturing & Engineering Corp., of Brooklyn 5, N. Y., announced recently. This new enlarger, Model 269, can be taken apart and stored in an 8x15x20 inch space. Built to take negatives from miniature to 2¼x3¼ inches, Model 269 is supplied complete with a 3½-inch Decar *f*/6.3 anastigmat lens and a removable 1¾x2 lens board. It has a parabolic reflector and diffused illumination system. Regular equipment includes a miniature carrier, accommodating glass or metal negative plates, a newly designed control friction drive for accurate focusing,



Stow-away enlarger folds for storage.

and a bellows that has extension from 2 inches to a maximum of 5½ inches. Magnification with the lens that is supplied is about 1½ to 7 times, at the baseboard Other equipment includes a standard swing red filter, and reinforced 14x16 baseboard, a 30-inch tubular post that is detachable in two sections. Standard equipment includes glass negative plates, 4 paper masks, enlarging lamp, focusing target, cord and switch. Model 269, which operates on a-c and d-c, costs $39.50, including tax. For complete information, write to the manufacturers.

AN EXTENSION LIGHT for the portable battery Speedlite has been announced by

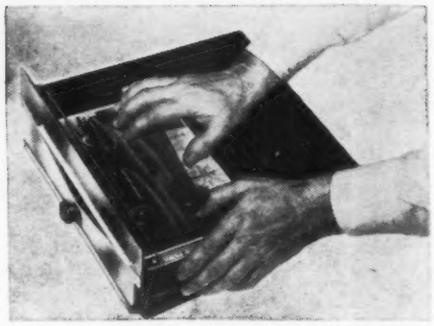


Speedlite with extension unit added.

the Stillman Electric Manufacturing Co., 1979 East 59th St., Cleveland 3, Ohio. This second light consists of an additional condensor bank, battery pack, tube, and reflector, all combined to make a 4-pound case. It has a 20-foot connecting cord for placement of lights and provision is made for mounting on a standard. The intensity remains equal when both the portable unit and the extension light are used. The portable unit has double intensity when the lamp of the extension unit, which is adapted to the portables now in use, is removed. Write the manufacturers for price and complete details.

A NEW SYNCHRONIZER for the Eastman 620 Brownie Special is announced by the Motor Company, 86 S. 6th St., Minneapolis 2, Minn. The Morton Flash Synchronizer uses any bayonet type flashbulb and standard pen-lite batteries. The unit, compact and light in weight, attaches easily to the front of the camera. Price is $3.95 plus tax.

A REVOLUTIONARY PAPER CUTTER is announced by the Calgary Brothers, 2508 Broadway, New York City. This new cutter, the Safe-T-Trimmer, is a lightweight



Safe T-Trimmer employs new principle.

model 2 inches high and 11¼ inches square, which does away with a lever-operated cutting blade. It has blades only an inch apart, which are operated by hand pressure on the calibrated platen which supports the paper. Special features include rubber feet which prevent sliding or scratching of surfaces, and the adjustability of the cutting pressure for different weights of paper and for fine cutting.

AN INEXPENSIVE TITLING SET is now offered by Super-Cam Products, 96-32 Queens Blvd., P. O. Box 74, Forest Hills, L.I., N.Y. Their new Super Titler consists of 3 color backgrounds and 500 assorted 1-inch letters in contrasting colors in a combination set priced at $3.95, or a choice of one of 4 different color backgrounds and 125 assorted 1-inch letters in contrasting colors for $1.50. Write the distributors for complete details.

Stereo projector uses synchronous shutter.

35 MM STEREO slide projector is announced by Stereovision, 1312 South Pierce St., Amarillo, Texas. This new Depthro model projects slides directly onto the screen by using a built-in synchronous shutter that alternately shows right and left views, which in turn are seen through a similar synchronous shutter in a separate viewer. The projector features a forced air cooling system, heat absorbing glass, and two 4-inch projection lenses. It uses up to 300-watt lamps, with 200-watt as standard equipment, and plugs into 110-120 volt alternating current. Price of projector and three viewers, with carrying case, is $175.00 including tax. Price of extra electrically-operated viewers is $3.95 each. Write the manufacturer for complete information.

PARALLAX COMPENSATION is provided by the new Instant Parallix, the United Camera Exchange announced recently. In close-up photography with all twin-lens cameras, this unit it said to be a boon for action portraits, medical photography, copying, etc. This device, which increases the close-up range to seven inches, fits over both lenses at once, and insures perfect alignment. There are three models focusing from 39 inches to 7 inches. Write the exclusive selling agents at 83 Chambers St., N.Y.C. for complete information and prices.

A WATER-POWER AGITATOR consisting of only two moving parts, is announced by the Moos Mfg. Co. Their product, the Johnson Hydro-Agitator, eliminates the task of turning your developing tank by hand, by connecting the unit to a water tap and controlling its speed by the flow of water. It is designed to accommodate all standard tanks. Write the manufacturer at 929 S. Rosemead Blvd., El Monte, Calif., for full details.

COLOR MASKING FILM and developer are announced by Eastman Kodak Co., in the Kodak Highlight Masking Film and De-

(*Continued on page* 190)

MOST ACCURATE AND EASIEST TO USE!

The NORWOOD Director
EXPOSURE METER

The meter with the amazing PHOTOSPHERE* and the simplified dial provides the most consistent, most accurate, quickest, and easiest method of determining exposure. The Photosphere is simply pointed at the camera position. No tilting to avoid the effect of sky or foreground is necessary. No compensation for subject color or brightness is required. No fuss—no indecision.

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*Reg. U. S. Pat. Off.

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Thousands of owners of the new Norwood Director are experiencing the thrill of making brilliant, perfectly exposed color transparencies—and making every shot count.

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Thousands more are enthusiastic over the consistently correct exposures they are getting in black and white—and they are finding the great plus value in being able to print all of their Norwood Director exposed negatives with practically the same printing time. Yes, they are making brilliant, balanced prints with an ease and sureness they never before thought possible.

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And just imagine the pleasure of the novice who knows so little about technical photography and yet is able to make a correctly exposed picture every time he releases the shutter—film waste and disappointment due to faulty exposure are no longer his concern when he uses a Norwood Director. Now he can concentrate on lighting values, composition, and interesting subject material—just like an expert.

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"Since I have used my Norwood Director I have not missed a shot working with color."—*Oak Park, Ill.*

"I have used your meter for indoor movies and stills and produced the most perfect results in years of taking pictures."—*Pontiac, Mich.*

"I purchased a Norwood Director exposure meter in December—it is everything you say—am more than satisfied with it . . ."—*Buffalo, N. Y.*

"I have had very excellent results with the meter (Norwood Director) on both black-and-white and color. I have used a ..... meter for (many) years, but have never experienced the consistent results the Norwood yields."—*St. Davids, Pa.*

"This meter is just about infallible when it comes to color work and have been using it constantly in my occupation as instructor of color photography at ..... School of Photography."—*Philadelphia, Pa.*

"I am very much pleased with the instrument. I have used it several times, and find it much more accurate, and, moreover, simpler in operation. . . . This is the first time I have ever gone off the deep end for anything to the extent of offering this type of compliment to a commercial product."—*Worthington, O.*

† In American Bolex Co. files

"I am an instructor of color photography at an accredited and extremely fine school and I personally conduct much research in the color and color reproduction field. Since I secured my Norwood Director I have yet to experience a faulty exposure, and I am very critical in my judgment."—*Hollywood, Calif.*

"We would like to endorse your Norwood Director Exposure Meter. We are now processing color for a large number of discriminating professional color photographers throughout the United States and Canada. The photographers that have changed to the Norwood Director have had a remarkable improvement in the quality and consistency of perfectly exposed transparencies. It is the difference between mediocre and perfection in color."—*A large color laboratory.*

"I am well pleased with it. The ease of operation and easy reading is very fine. It is a fit companion to the Bolex 16 I purchased last fall."—*Detroit, Mich.*

"Would like to offer my congratulations on your meters—they are wonderful instruments."—*Augusta, Kan.*

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WHO'S WHO

News & Comments about Photography and Photographers

conducted by

H. P. SIDEL, *Director*

of THE SCHOOL OF MODERN PHOTOGRAPHY

A group of our SMP boys and girls drew quite a crowd the other day. They didn't even notice. They were having too much fun—and good, sound camera practice, too.

I've come to expect such excitement when our students go out "on location." These outdoor assignments are one of many activities that make learning the game real pleasure at SMP.

Of course, it takes organization—lots of it. Our location unit begins with a 14-passenger station wagon—and what we do pack into it! A typical jaunt fills it with models, instructors and students. Then, in go 15 press cameras, 15 flash units, 4 portable strobe outfits, and 101 other things. That leaves just enough room for comfort, plus one driver.

Away we ride to Central Park for fashion poses, Radio City for architectural scenes, factories and stores for industrial shots. Then—our models go dramatic — acting out story-telling tableaux, while the boys and girls shoot the works—black and white, and color.

Everybody gets to go on these trips—day *and* evening students. They wouldn't miss it.

• *Hitting the Jackpot*

Every week's mail brings me news of another terrific success by one of my boys. "Terrific" is just the word for DON J. MESSINGER.

Only 18 months ago, Don was right here studying commercial photography. Today, 9 people—count them—9 employees are working for him in his booming Don J. Studios, in Lancaster, N. Y. Look at some of his accounts—General Electric Co., Lehigh Valley Railroad, Carborundum Company!

"We're expanding to the point," he writes me, "where we are now doing work as far east as Syracuse, as well as covering northwest Pennsylvania." And for icing on the cake, he adds, "I attribute a great deal of this success to the schooling I received at SMP."

• *Star's Fairy Godmother*

To speak of SMP schooling is to speak of a faculty of which I become more and more proud through the years. One of our finest teachers is MRS. HELEN SANDERS. 40 years have passed since this lovely lady first made her start in portrait photography—and she's stayed in the top ranks ever since. Winner of many prizes and diplomas of merit, her work has been exhibited all over the world.

As well-loved for her charm as she is respected for her great gifts, Mrs. Sanders is revered by all who study under her. Now, she has written some of her fame-winning secrets into a masterful data sheet called "Principles of Portrait Lighting." It includes an illustrated chart that makes lighting easier to understand than a simple exposure meter—and it's stock full of invaluable aids and illustrations.

• *Two FREE Offers*

This data sheet is FREE. If you want a copy—and anyone whose aim is fine portraiture can't afford to miss it—mail coupon below.

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WARD PEASE DISCUSSES

Your Second Camera

I CAN remember having read once in a magazine devoted to outdoor sports and hunting a statement that if a hunter owned two rifles, a .22 for practice and a heavier one for real hunting, they should both operate on the same principle. The idea was that if one did 95 per cent of his shooting with a pump action .22 and then switched to a bolt action 30-06 he would be handicapped. In the excitement which often overpowers a man in the presence of game, (it is called "buck fever") he might forget and try to "pump" the heavier rifle. That would not put another cartridge in the chamber and any chance at a second shot would be lost.

The parallel between this and camera operation of some kinds requiring quick action is quite good, and the idea in general is worth looking into.

Many amateur photographers, and certainly most professionals, find it desirable to own more than one camera. The thought just expressed might easily apply in such a case. There are numerous arguments in favor of concentrating on one camera and learning its characteristics, capabilities, and limitations thoroughly. Only with well-practiced familiarity comes that facility of operation which means that the setting up and adjusting of the camera has become second nature, and whole, undivided attention can be concentrated on the study of the subject and composition at hand.

There are also good arguments in favor of owning more than one camera. If a second or auxiliary camera is of a type similar to the one already familiar, and has the same or like operating characteristics, the objection to having more than one camera to understand becomes less valid.

There are several good reasons for owning a second camera. One's more serious efforts might involve the use of a large, heavy outfit; Graphic, studio, view, or Graflex type for instance. This would indicate the need for a lighter and handier outfit of readier portability for traveling, as an accessory to sports or other activities, or just for fooling around on odd projects where the cost of the film for a larger camera would be a deterring item. Handiness becomes an important item when traveling by plane, for instance. A complete 4x5 Speed Graphic outfit with holders, synchronizer, bulbs, case, etc., would just about cancel an air traveler's baggage allowance by itself, leaving no surplus for a tooth brush and a change of socks. There is a limit to the size of the hand baggage which is permitted at the seat in a plane, and I have seen a traveling companion grab a few items from the case which he felt he needed for a 2¼x3¼ Speed Graphic before it was checked in the baggage compartment. I feel sure that he was glad he kept the camera with him in spite of the inconvenience, for on that flight he got a shot which has had wide acceptance in the salons.

Another good reason for a second camera lies in opportunities missed because the camera was not along. "What a man will see when he ain't got a gun" was one old hunter's way of putting the matter. A second outfit kept in the car is often the answer to this need. Unfortunately, two of the most convenient places in a car for the storage of a camera are the least suitable for that purpose. One is the glove compartment where the heat of the engine does things to the film in any camera left there. The other spot is on the shelf over the back seat, where the sun can shine through the rear window and overheat the camera with disastrous effects to the film.

A second, small camera that can be carried, is handy for air travel where baggage rules preclude a larger one.

Sometimes two distinct types of usage are better met by having two separate cameras, better adapted to each usage. A common example would be one for 35-mm color transparencies and another for larger negatives which are better if good sized enlargements are planned. Another example would be a tripod type of camera for landscape work and another type for getting shots of children around home. Many cameras are advertised as being completely universal in their capabilities. It may be possible to do a wide variety of work passably with one camera, still each specific type of work is

"HEADS-UP" PHOTOGRAPHY

leads to camera success

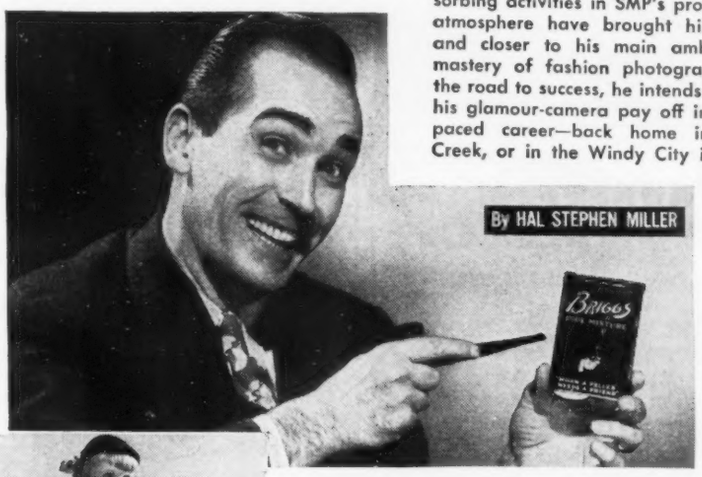
By GEORGE DAHM

1. Photography's stand-outs are men who shoot to sell — and sell, what they shoot. Bred — not born — is such professional "sharp-shooting". And as the training-ground for success, first choice among careerists, the world over, is New York's cosmopolitan SCHOOL OF MODERN PHOTOGRAPHY. To its superb studios come hundreds from the profession itself, seeking the famed modern techniques that lead to top-ranking posts. Among them came GEORGE DAHM, creator of the Dali-like portrait *(left)*. In his fifth year as photographer for Pepsi-Cola, Dahm spent evenings building up a crack-shot command of color photography. Re-armed and well-schooled, he is "hitting the spot" with every shot — doing a superior job for Dahm **and** Pepsi-Cola.

2. Pipe dreams become reality in SMP's magic atmosphere. To a young free-lancer like HAL STEPHEN MILLER (see below), studios equipped like a cameraman's paradise present exciting opportunities to develop rich and varied skills. Aided by SMP's faculty of camera aces, Miller has acquired a lens-artistry that promises him an outstanding career in color portraiture.

3. Squarely up to every beginner is the one vital decision—"Shall I shadow-box with success as progress drags, or travel fast as a well-schooled professional?" Far off in Michigan, free-lancer GEORGE VALLILLEE (see right) made the "heads-up" choice—made tracks for New York and SMP. In the fast-flying months that followed, his absorbing activities in SMP's professional atmosphere have brought him closer and closer to his main ambition — mastery of fashion photography. On the road to success, he intends to make his glamour-camera pay off in a fast-paced career—back home in Battle Creek, or in the Windy City itself.

By GEORGE VALLILLEE



By HAL STEPHEN MILLER

By GENE SCHUYLER

4. A date with destiny lies ahead for the ambitious amateur. Case in point — GENE SCHUYLER. New but resolute, Schuyler enrolled at SMP with only a year of amateur camera-fun under his belt. Under many of the bright stars of photography's Who's Who, his stature blossomed swiftly. Speeding his growth were the ultra-modern studios, the "last-word" equipment, the cosmopolitan atmosphere . . . features which attract careerists like Schuyler to SMP from all over the world. Packing a bag-full of professional tricks, Schuyler's headed for a field teeming with opportunity — Television photography.

By WARREN W. KAHN

5. No child's play is the winning of camera stardom—and few know it better than the professional. From the vantage point of a studio career, Warren W. Kahn often glimpsed the golden heights, seemingly beyond his reach. Set on mastering the necessary advanced techniques, he bee-lined for SMP's much-marveled-at modern studios. Today, it's studio-owner Kahn—a striking success in child portraiture (above).

6. Information Please! Into this reception room have walked thousands of starry-eyed youngsters and careerists of all ages. Question most often asked: *"What about tuition fees?"* The answer is genuinely surprising, for specialized courses or complete study programs, *either day or evening*, are exceptionally moderate. Visit the School, or write for outline of courses. *Address* H. P. Sidel, Director, Dept. P-5.

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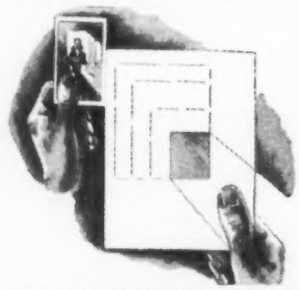

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often best handled by a different type of camera.

When two cameras are needed for one or another of these reasons, or just because you want a second camera anyway, it is time to consider the advice about similarity of operating characteristics. Both cameras should have rangefinders if that is the type of focusing to which you are accustomed. If your big camera is a Graflex, the small one might well be of the twin lens reflex form. One who is accustomed to seeing the inverted image on the ground-glass might favor a small camera of the Maximar or Recomar type, the 2¼x3¼ Speed Graphic type, or a similar camera such as the Busch Pressman.

There is still another slant on this whole matter. I am thinking of my own three cameras and their relationship to what I have to say. I have 9x12-cm and 6.5x9-cm cameras of the folding, ground-glass back type which are more different in bulk than the film sizes would indicate. They fit the matched pair idea very well as their operation is much the same, and I use the larger for serious work and the smaller for just fooling around, for experimenting when I do not care to waste larger film, and for traveling light. On the other hand I have and use a Graflex a great deal. It originally was acquired for use in getting pictures of the children, a type of work for which it is well adapted. Lately its activities are by no means confined to that use alone. It often is used for work which could be done as well or better with the larger of the other cameras, but I find a certain refreshment or newness of viewpoint which comes from switching from one to the other of the two very dissimilar cameras.

Well, things have gotten around to a rather complicated state with three different cameras in the picture. Just the same, I feel that it is still common sense to be sure that a camera is thoroughly understood and the best of its capabilities developed before it is condemned for failing to make the pictures that you think that it should. Not until that point has been reached should a camera be disposed of in favor of another, or should the situation be complicated by the presence of a second camera in the collection to cause you to try to push the gadget that is only on the other camera.—

ANSWERS TO PIX-QUIZ

(See Page 28)

1. (5) Printing Out Paper.
2. (2) a method of editing film so as to show an earlier scene to clarify action.
3. (3) an exposure taken with a camera when a pinhole is used as the lens.

Think up some questions yourself! POPULAR PHOTOGRAPHY will send you three dollars and the original Popko drawing, suitable for framing, which is used to illustrate your quiz question. So send in your pet problems, and let's see if you can stump the experts. Unused contributions cannot be returned.

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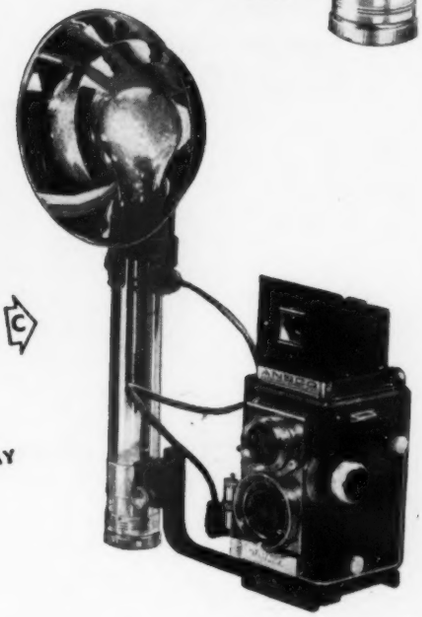

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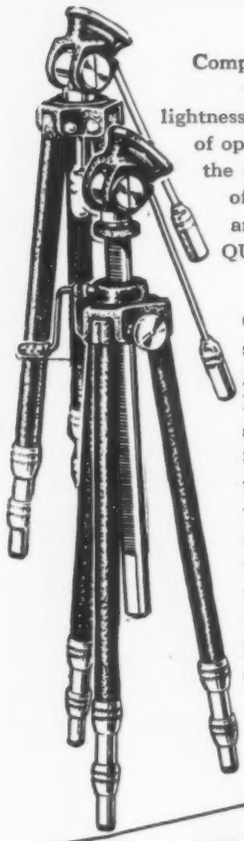

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A woodland tragedy is subject of this sketch which was drawn by George Mercer with only hypo, developer, and developing-out paper. Note the detail and the tonal gradation.

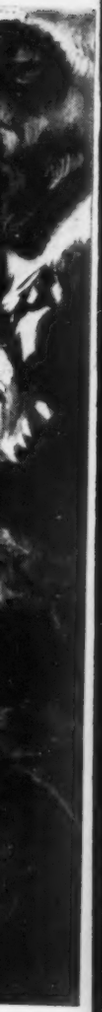
DRAW with DEVELOPER

Try your hand at sketching on photographic paper, using developer and hypo as paints

I HAVE found there's fun in free-hand sketching on photographic paper—using only ordinary developing and fixing solutions as your paint or pigments.

Don't worry about using a darkroom. Boldly take the printing paper from its protective covering, and lightly trace or sketch the outline of a drawing with pencil. Then work this up into a completed sketch, using developer applied with pen, brush, or wads of cotton. Varying the amount and the number of strokes will control your tones. Whites and highlights can be achieved by using hypo, applied with a pen or brush. The areas which have been left untouched by developer or hypo will darken in time, but they may be avoided by fixing the print in hypo, which will then give you a completely clear background. Here's hoping you have fun.—*George D. Mercer.*

Highlights are the most striking feature of this developer-drawn sketch by Mercer.



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Magazines

(*Continued from page* 16)

manded his own. The proprietor was apologetic but said he couldn't possibly find a "blue suit, size I think about 42" on a moment's notice. Maybe Weegee could come back after five when he'd have a chance to look thoroughly.

"It'll only take three minutes," said Weegee. "Just look for the only suit in the shop with zippers on all the pockets."

It took two minutes. But as we said, this could only happen to Weegee.

* * *

We get our photo mystery of the year from BRADLEY SMITH, and warn readers that this is a story with no conclusion.

Bradley made photographs of two Daughters of the Confederacy placing a wreath on the grave of Jefferson Davis, in Hollywood Cemetery, Richmond, and is somehow glad to be back and able to tell the story.

Finished, Bradley sent the two "girls" home in a cab, packed his gear into his own car, and drove slowly through the cemetery. Twilight cast an eerie aura over the graves and trees, and Bradley, a sucker for atmosphere, wondered how he could catch the scene on color film.

Just then he spotted a recent grave which had sunken in, so that the withing flowers planted around it all drooped over toward the center of the hole. Bradley stopped, pulled on his brake, took out his Speed Graphic and one loaded holder, and got set for a photograph he thought would capture an unusual mood.

As he raised his camera to shoot, the corner of his eye caught sight of his beautiful Buick convertible rolling away down the road.

Bradley caught up with the car about a block away, threw his camera into the back seat, jumped in and stopped the car. In his hand he found the slide from the film holder. But had he tripped the shutter? He checked and apparently had, since it was not cocked. How had the car moved? Bradley got out and looked at the road—there was no hill, not even an incline!

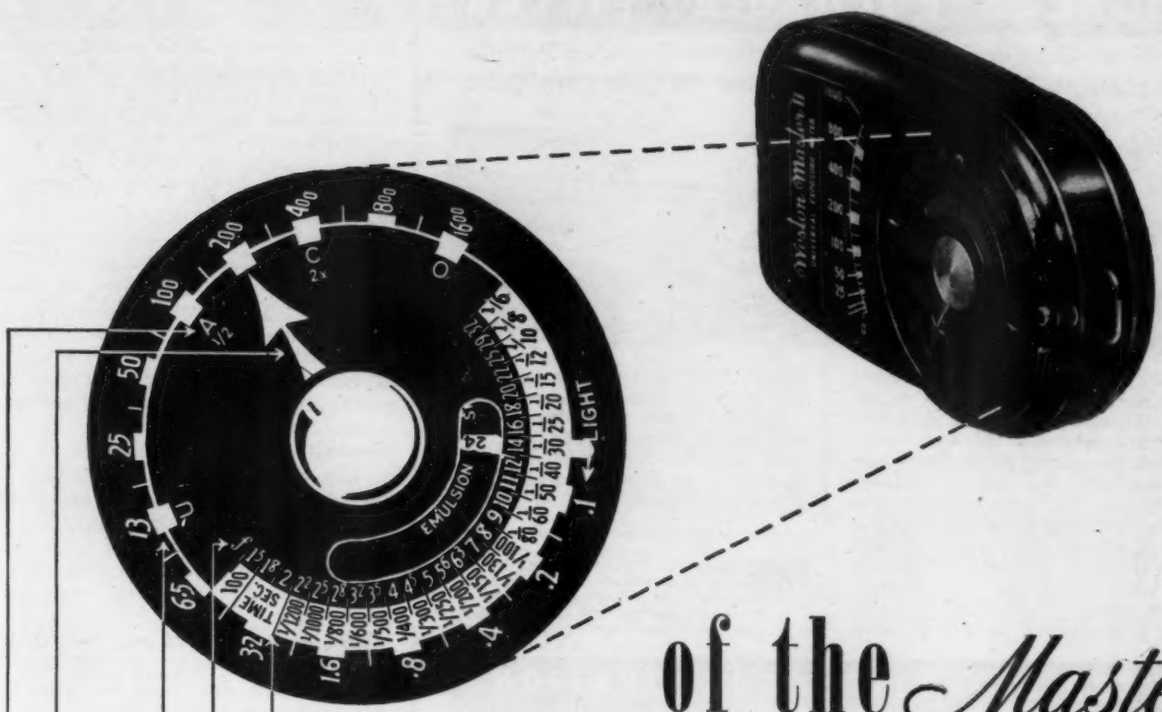
Shaking, Bradley got back to his hotel, carefully counted up his afternoon's twelve color exposures, and shipped them off to be processed. If, before running after his car, he had tripped the shutter, he would have some kind of a photograph of the grave. If he hadn't exposed the film, there would be one blank sheet among the dozen.

When the transparencies were returned, there were twelve good shots and no blanks. And there was no photograph of the sinking grave! He's not going back for a retake.

* * *

Four thousand feet up, flat on his back. This is the kind of thing that makes magazine men appreciate the brief periods of rest they get at home. Not so long ago ARNOLD EAGLE was assigned to do a story on skiing at Stowe, Vermont. Now Arnold is what one might call the steady type—solid, hard working, able—but hardly the lithe, athletic youth he once

It's *all* on the dial . . .



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was. This was well known to his magazine editor—so well known, in fact, that he told Arnold that under no circumstances was he to try to ski himself.

"Just take pictures," he said. "No skiing." The editors, you see, remembered that the last time Arnold had tried the boards, he'd broken an ankle.

Under these orders, then, Arnold arrived at Stowe. His main objective was to get a series of shots from the summit of Mount Mansfield, 4400 feet high. For nine days he and his guide tried to reach the top, each time turning back because of foul weather. The first 4000 feet was easy according to Arnold, since they could ride in the lift, but the last 400 had to be traversed on shoes (for Arnold) and skis (for the guide). On the ninth day the weather cleared and the two made the summit. Delighted at the superb view, Arnold spent all his film and the remaining daylight shooting the scene. When it got dark, they found the lift had stopped operating and they were marooned. And it was getting colder. It would take Arnold all night to plow down on his snowshoes, he realized. Then he saw one of the posters showing two guides escorting a wounded skier down the mountain on a sled.

"Why not?" he said.

"Because you need two men to keep the sled from whipping," the guide pointed out.

"But I want to go home," said Arnold. "And besides, if two men can handle a wounded one, one man can handle an able-bodied person."

So they lashed the equipment to the sled and Arnold jumped aboard. The trail was two and a half miles down and every time it turned, Arnold soared off into space till stopped by trees or snow. They say that on his last try, he cleared well over forty feet, which ought to be some sort of a record for throwing one's weight around.

Arnold says he would have been completely happy when they all arrived safely at Stowe if the guide had shown just a little sign of fatigue from the amazing job he'd done in piloting them. But he wasn't even breathing hard.

* * *

Croesus Note. In the profession of photography as in every other, there are days when everything turns out wonderfully—and the other kind. This has to do with the former. A very happy tale. Bradley Smith was to do some black-and-white portraits of Sheik Abdullah of Kashmir, in New York during the UN debate on the Indian question. He posed his subject in the Kashmir robes of state, shot his pictures, and left. On developing the prints, he found he had inadvertently used some old 120 color film instead of 120 black and white. It was impossible to ask the Sheik to pose again, so Bradley sent his film to the laboratories for processing, fearing the worst. But they came back as clear, wonderful color shots—so good, in fact, that the Sheik bought them and invited Brad to Kashmir to do some color work for him. And on top of that, Brad was able to make black and whites from the color prints to satisfy his magazine. His luck, Brad

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says, stems from the fact that he overexposes and underdevelops his black-and-white film to accentuate shadow detail.

* * *

INSIDE STORY. Text articles in *PHOTO-GRAPHIC 1948* ought to dispel a lot of false notions folks have about the profession of magazine photography. Too many aspiring young hopefuls hear about pay ranging from $100 to $300 a day and forget that this is a field in which less than 350 photographers are at present having any kind of success. The requirements are extremely exacting, in terms of editorial judgment, quick thinking, stamina, highly developed visual imagination, general knowledge of life, salesmanship—and a small amount of the kind of knowledge you can pick up in a school or a darkroom.

There seems to be an idea aboard that a free-lance photographer is someone who shoots stories and submits them to magazines, accepting whatever rates are paid to him. Nothing could be less correct. Actually, a free lancer is simply any person who is not on the staff of a magazine. And, if a photographer were to make pictures first and then attempt to sell them, he would soon starve. In fact, he usually does starve, or at least loses money, until he gets his work on the basis of assignments and commitments in advance from editors.

"No jobs on speculation," is almost an unwritten law of the profession. And a $100 a day rate, for the average photographer, is very little. Out of it must come his agent's commission of 35 or 40 per cent; all kinds of extra expenses, including several kinds of insurance; office, secretarial, darkroom, and sometimes studio overhead; savings for both figurative and actual rainy days.

Top magazine writers can make as much as $50,000 to $60,000 a year. Against that yardstick, there is no comparable incentive for photographers. A few may make $25,000; the majority of successful ones probably make less than $10,000 and have achieved their position through more rigid trials, and more selective and competitive conditions, than exist in almost any other profession.

* * *

One little thing. GEORGE TAMES, Washington photographer, for the *New York Times Magazine*, has always been a level-headed, alert man. No matter how tough the assignment, he has remained unruffled and has done his work well. But something must have happened this time. It seems that not long ago George was asked by a prominent Washington personality, one Harry Truman, to instruct his daughter in the use of a new Speed Graphic. Pleased at the honor, George went into great detail explaining how to trip the shutter, how and when to use the cable release, how to adjust the focusing mechanism, how to determine exposures, etc. . . .

At last Margaret was ready to try it on her own and George sat back relaxed to await her return. When the first shot was developed, however, it was a blank. George had forgotten to tell the President's daughter to remove the slide before shooting!

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Ready for use as darkroom, enlarger cabinet folds back against wall (right), while other cupboards open, showing how equipment is stored. After work, the entire section is closed (below), and room is set for normal use.

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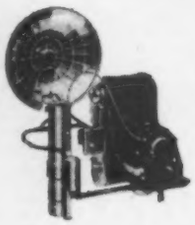

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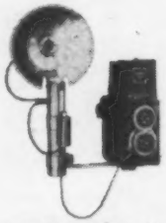

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NOTES ON THE PICTURE SECTION

PAGE 60

Solarized while in the negative stage, *Girl's Head* by Edgar Zobel of Chicago's Institute of Design, was exposed for one second to a 15 watt light held five feet away after it had been developed one half of the normal time. After this was done, the negative was placed again in the developer, and processing completed for the normal length of time. The original exposure was made with an Ansco View camera, Isopan film, at *f*/16, for one second.

PAGE 61

Betty Berg, ballet dancer, was the model for Arthur Siegel's combination print in which both subject and background seem created with the same diagonal elements. Siegel combined the negative of a skylight scene, and a shot of his model in an effort to express the feeling of space, projected them in his enlarger to produce this print. The shot of Betty Berg was made with a Rolleiflex, using Eastman Super-XX film, and at an exposure of *f*/35, 1/400.

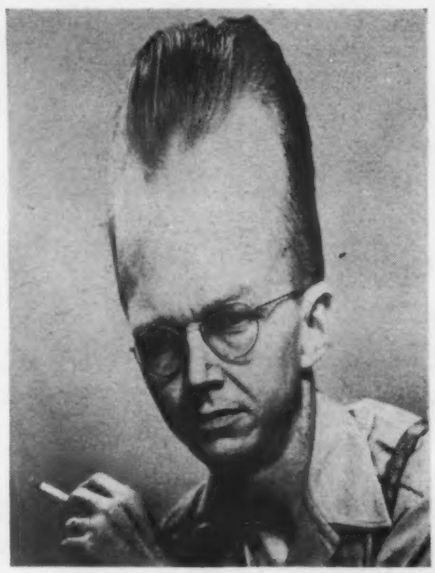
PAGES 62, 63

The three unusual photographs which make up this set of scenes are the work of Serge of Paris, and are the result of a simple technique of darkroom manipulation. With the negative in the enlarger, the photographer placed a red filter over the enlarger lens so that the light would not affect the paper emulsion, and bent and deformed the paper on the easel until the desired effect was achieved. Then the paper was tacked carefully to the board without disturbing the undulations, the filter removed, the lens closed down for greatest depth of field, and the exposure made.

Catch as Catch Can, the wrestling scene, was made in Paris at the Palais des Sports, an arena corresponding to New York's Madison Square Garden. Serge used an Exacta, Super-XX film, and an exposure of 1/100 at *f*/2.

Bull Fight was taken in Marseilles, as was the auto racing scene, with a Rolleiflex. The exposure was 1/300 at *f*/5.6, using Super-XX film.

Another use of this same technique of distortion, but to add humor to a scene, rather than add the appearance of motion, is shown in Bob Ortan's picture, "The Intellectual," which is reproduced in this column.



Bob Ortan of Elk River, Minnesota, distorted this portrait study to produce an amusing picture titled "The Intellectual".

PAGES 64, 65

Two separate negatives were made and combined in printing to create this sparkling *People in the Park* print. One exposure was a silhouette of passersby strolling in the sun, and the other was of reflections caused by the sun glinting on a mud puddle. Arthur Siegel was the photographer who saw the possibilities inherent in this combination of negatives, made with a Rolleiflex on Eastman Super-XX film.

PAGE 66

The dream scene of girl musicians was made by Wilfred Zogbaum of New York in an effort to convey the atmosphere of swing music. His negative was a straight shot made under studio conditions with a Rolleiflex, Super-XX film, at *f*/8, 1/10.

Darkroom technique entered the picture during the enlarging stage. After Zogbaum had placed the negative in his enlarger carrier he set up a large piece of ordinary glass about eight inches above his printing paper. This sheet of glass was supported at all four corners so that it would be in the same plane as the paper, and was then smeared with ordinary rubber cement in a pattern dictated by the imagination of the photographer. This cement distorted the picture without removing all definition entirely. Those who wish to attempt this technique should remember not to stop the enlarger lens down too much, else the outlines of the rubber cement will appear too sharp, and the desired effect will be lost.

PAGE 67

Gleb Derujinsky, Jr. of New York takes painstaking care when he makes montages such as the one which appears in this month's issue. He first sketches the idea by projecting the desired negatives on blank sheets of paper and then makes three test prints of each negative to check on exposure and necessary dodging. He writes the exact data on each print before development, and then armed with this information proceeds to make his montage, occasionally reducing on the wet print during development by use of a strong solution of ferrocyanide.

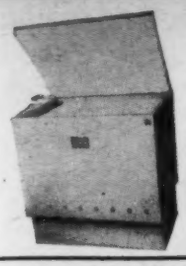
The negatives which make up this print were made with his Linhof 9x12 cm camera, which has been converted for 4x5 work. His exposures were 1/25 at *f*/6.8, using Super-XX film. After processing, most halftones or grays were new-coccined out.

A wire fence pattern can be seen as an overlay on the print. This is the result of Derujinsky's technique for diffusion; he places a piece of coarse material such as cheesecloth or a silk stocking on the negative carrier. Its near relation to the light source in the enlarger causes slight halation and subsequent appearance of the pattern on the print in a psuedo-negative form.

PAGES 68, 69

Hillar P. Maskar's six prints reveal successive stages in solarization and paper printing techniques. The prints, made for the Institute of Design, are shown in the following order: First is the solarized positive print, made from a negative shot with a Graphic View camera, 4x5, on Isopan at *f*/16, 1/10. From this print Maskar made a paper negative, shown as step two. This negative was used in step three to make the paper positive. Picture four reproduces the solarized paper positive. This solarized

This bas-relief was made through use of the same master negative which Hillar Maskar used to start his six print series which appears on page 68, 69, this issue.



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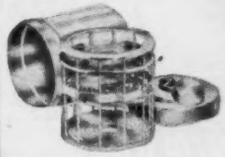

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positive was then used to make a paper negative, shown in step five. The last step creates a print with the quality of an artist's sketch, made by printing the paper negative of step five so that a positive is the final result.

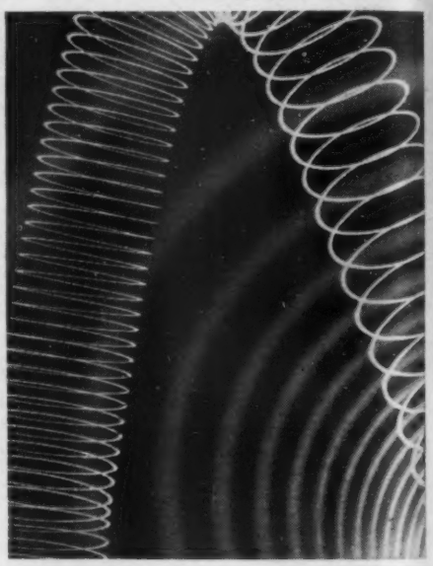
Maskar's master film negative also was used to create a bas relief which can be found in this section.

PAGE 70

Robert Elmore's *Ring and Cloth* picture is a controlled reticulation achieved by treating the central area of the negative with a hardening solution before reticulating it in alternate baths of warm and cold water. Effects like these can be used when the photographer wishes to subordinate certain areas of a photograph, and emphasize others. Elmore used a 4x5 Graphic View camera and Ansco Triple S Pan film. His exposure was one second at *f*/32.

PAGE 71

A photogram mosaic, the patterned arrangement on this page is the work of Robert Buchbinder of Chicago, talented commercial photographer. His original photogram, which appears in this section, was



Robert Buchbinder used this photogram to make his copy negative with which he produced the fanciful and well blanced mosaic reproduced on page 71

made with a toy known to the trade as Mr. Walker. It consists of a flexible coiled wire spring about three inches in diameter, and it may be pulled out to a length of several feet. The spring was taped to a piece of No. 3 11x14 enlarging paper so that sections of it were in contact with the paper. A loose end of the spring was then pulled up and taped over the enlarger lens so that the concentric circles formed by the spring covered the paper, which was then exposed for 30 seconds at *f*/32. A copy negative was made of the finished print, and contact prints made from it for the mosaic. Half the prints were made in reverse in order to keep a symmetrical pattern.

PAGE 72

Photograms, made by placing objects in near contact with a sheet of sensitive paper, are simple to achieve, yet can be almost an art form in themselves. The particular photogram reproduced on page 72 falls in this category. Exhibited in England as one of a set of one hundred photograms by Arthur Siegel of Chicago, the British Journal of Photography had this to say about it and the others: . . . "It is emphatically out of the ordinary, and as such is a great change and in marked contrast to other exhibitions . . . there are plans in photography not governed by the usual rules, and . . . now and again it is worthwhile to step aside from the stereotyped and the obvious and view another series of dimension."

Siegel produced this particular photogram by placing a shape cut out of cardboard on a sheet of Kodabromide No. 3. He then used a small penlight to print the various angles and faces of the form so as to produce a feeling of depth and dimension.

Fred Korth of Chicago is responsible for the reticulated nude. The negative was made with a Deardorff View camera, 5x7 on Ansco Triple S Pan film. His exposure was

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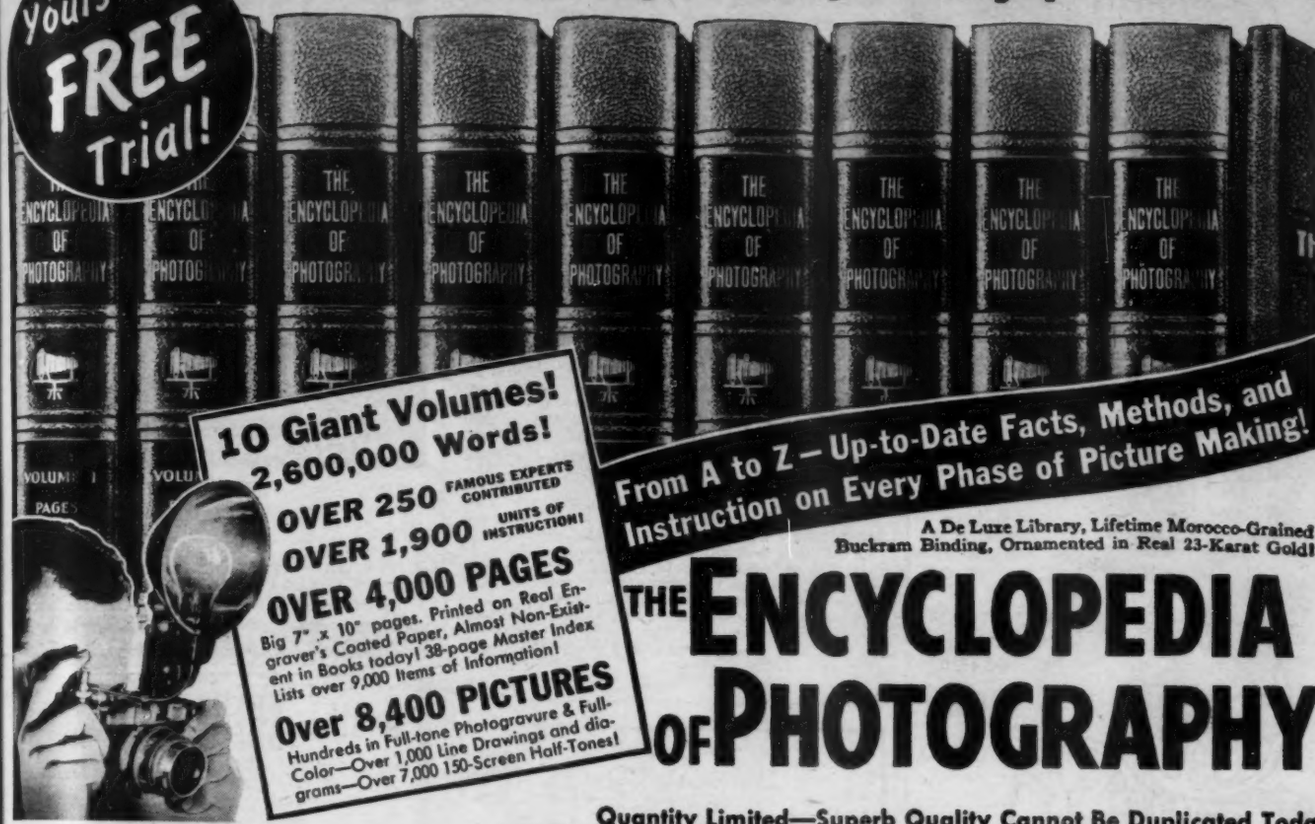

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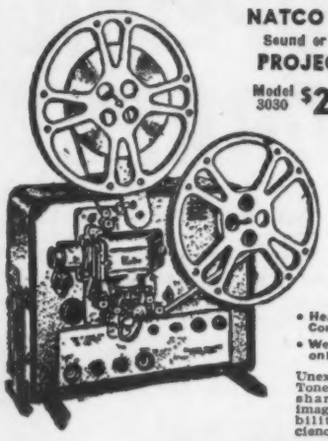

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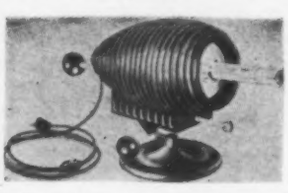

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1/5 at f/22, and the negative was reticulated by immersing it alternately in cold water, and boiling water for a few minutes at a time. This was kept up for 1½ to 2 hours.

PAGE 73

The texture screen portrait appearing on page 73 is also the work of Fred Korth. The photographer partially covered his camera lens with wrinkled cellophane when making the model's portrait on Triple S Pan at f/6.8, 1/10 and then reduced the resulting negative in a strong ferrocyanide solution. This cut down the highlights somewhat. Then the negative was strengthened in the shadows and hair with applications of aniline dye. The fabric negative which gives the photograph its textured effect was made on Triple S Pan film at f/22. Duration of the exposure was 4 seconds. The two negatives were then printed in succession on Illustrators' Special paper.

PAGE 74

Three Moods is the work of Harry Ittner of Cleveland, Ohio. Though the exposures which make up this particular print were made in the studio, rather than the darkroom, they illustrate a technique of multiple exposure which can be adapted for darkroom use. These three views were made on the same film, and before each was made, its position was marked on the ground glass to help place the next exposure. This technique is comparable with that used by Derujinsky in planning his paper montages.

The idea behind this composition was to portray different facets of the model's personality, and at the same time combine the three faces into an effective design. The photographer used a Speed Graphic, 4x5, Eastman Super-XX film, and exposed by meter. His model was Barbara Conde of Batavia, Illinois.

THE MAY COVER

One sunny day last winter (this was in California!), photographer Richard C. Miller of Los Angeles took model Skippy Elliot to a spot at nearby El Segundo beach, where Miller knew a particularly photogenic sand dune was wont to rear its tawny head. His hope was to make some unusual color action shots which would be something out of the ordinary . . . so for several hours Miss Elliot ran, skipped, and jumped across the dune as Miller alternated between shooting her, and chasing his foil reflectors which kept blowing over.

All this action finally grew tedious, and Miss Elliot sank to the sand for a well earned rest. Miller, purely for his own pleasure, and with no thought of pain or fame, made a few shots of the young lady on the sand and against the sky.

And, as is the way in these things, the worked-for shots remain in Miller's files, and one of the other shots appears on this month's cover. What's the moral of this story? If everyone had a model like Skippy Elliot, their work would be a pleasure too!

Miller used Kodachrome film, and a 4x5 Graflex, model D, with 7½ inch lens. The exposure was 1/35 at f/9.5, using flash fill-in.

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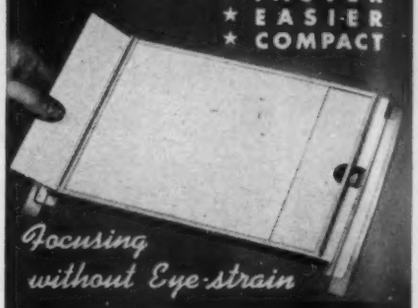

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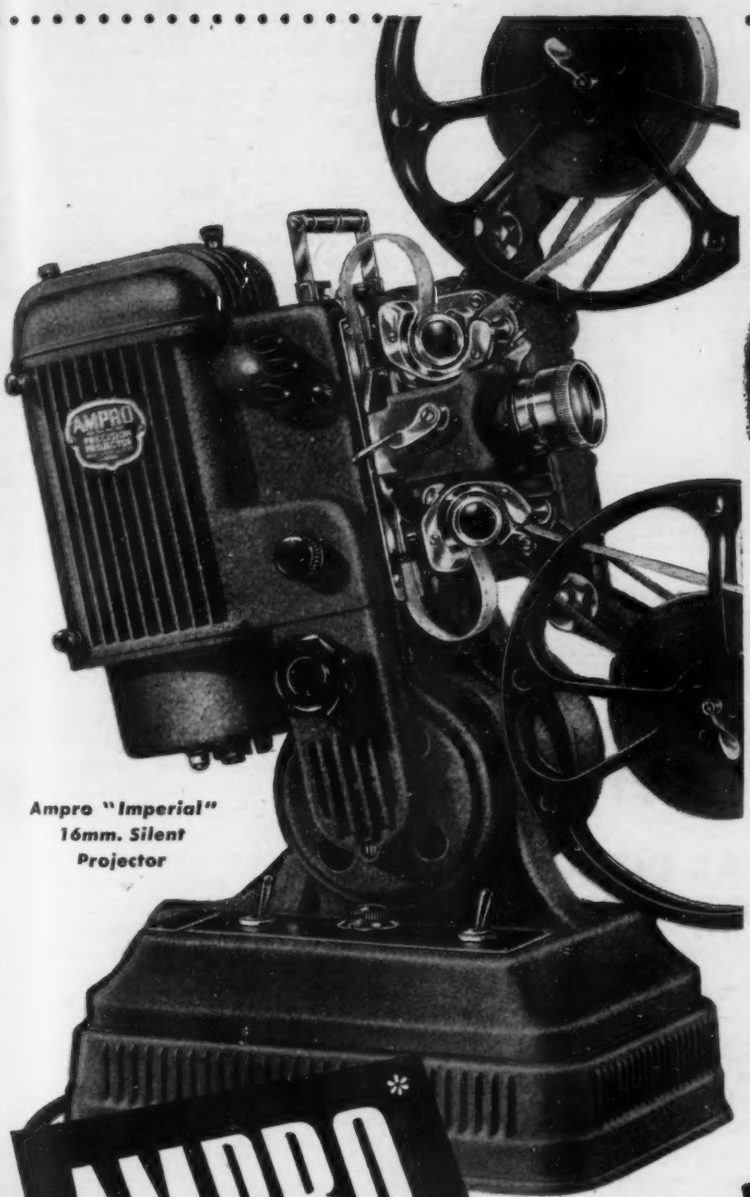

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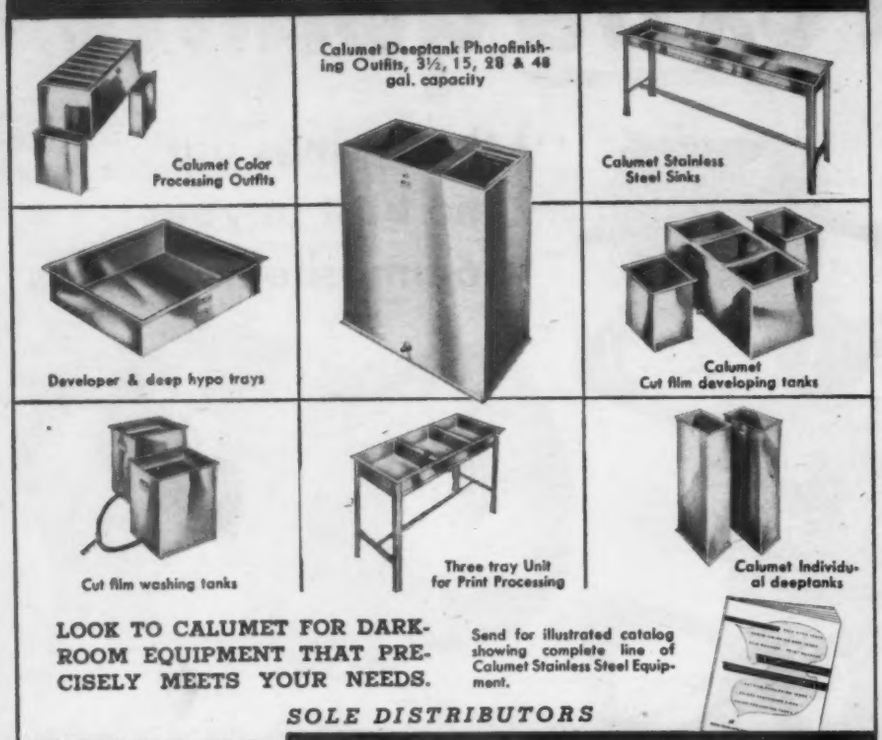

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Interval Timer

(*Continued from page* 87)

overpriced—but you can make one in your kitchen or in your workshop for about $10 and it will be every bit as good as the manufactured article. The heart of your device is not a clock motor, or anything subject to rust or wear, but an easily obtainable vacuum tube.

Pick out a good radio supply firm and visit them with the list of component parts required. The parts listed are about the most compact and accurate available—and also the most reasonably priced. The clerk may be able to recommend substitutions in the way of bargains or war surplus supplies, or if the exact items listed are not in stock, no doubt he will be able to recommend an alternate as a multitude of equally suitable components can be used.

When you have accumulated the parts, you can begin work. First you must lay them out to fit compactly and mount conveniently in your timer housing. The housing can be a metal cabinet (obtainable from the same source as the rest of the components) or one of wood fabricated by yourself. The metal cabinet (4x5x6 inches) listed costs 90 cents and probably will enable you to save time and also to have a more commercial appearing device. When you have the relay, transformer, tube socket, condenser, and switches laid out so they fit into your cabinet, drill the mounting holes and fasten the parts in place by means of small screws with nuts. Probably the most difficult holes to drill will be the large 1⅛-inch holes used to mount the enlarger receptacle, but your local radio man will no doubt be able to help you. The front panel has the three switches and the two multi-switch mounting holes. Mark it out and drill the holes as necessary. Next, drill the holes per specifications for the tube socket mounting, the relay, the transformer, and the condenser. One more ¼- or ⅜-inch hole to bring your 110-volt a-c cord in will complete the cabinet work. The resistors and the C2 condenser need not be mounted in the cabinet—they will be soldered directly to the switches and the relay will thus be self-supporting.

With everything fastened in place, you can now carry on with the soldering of the connecting wires. It will save time if you mount the resistances R1 to R10 in their places on SW1 and the resistances R11 to R14 in their places on SW2. C2 can be soldered to the leads on the relay but be sure the wires do not interfere with the operation of the armature of the relay.

Study your circuit as drawn and ascertain where each wire goes. If you are in doubt, anyone familiar with electrical or radio wiring will be of help to point out the connections. One important thing—the 10-mfd electrolytic condenser across the relay coil should be wired with the *plus* side to the cathode of the tube. The plus side will be marked on the case and if you watch for it, you will have no trouble.

Now wire the parts together. The

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Argus "21", Markfinder, F3.5	58.08	
Mercury II, F2.7 Case, ctd	82.50	37.50
Perfex Deluxe, F2.8 Case, ctd	99.50	73.00
Clarus, cpld, F2.8 Woll. ctd	116.25	84.00
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Kine Exacta, F2.8 Tessar, cc	295.00	229.00

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120 Monte Carlo F4.5	48.00	35.00
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Leica G, cpld, F2 Summar, cc		220.00
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Leica III C, Elmar, F3.5, cc	332.50	215.00
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Contax I, Sonnar F2, cc		155.00
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Contax III, Sonnar, F2, cc	346.00	287.00
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35mm Elmar F3.5 W.A.	$123.20	$ 89.00
50mm Elmar F3.5	98.00	59.00
50mm Summar F2	128.00	83.00
50mm Summitar F2	220.50	175.00
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Leitz Filters for Summar	5.20	3.50
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A fine grain roll film with a wide range of latitude. Use it indoors or outdoors with equally good results. Coated with panchromatic emulsion sensitive to all colors. Guaranteed.

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2¼ x 3¼ Panatomic X cutfilm O.D. 2 doz.	78c
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Ser. VI	each 2.90
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TO FIT ANY CAMERA—SUNSHADE AND COMPLETE FILTER SET FOR BLACK AND WHITE!

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MOVIE KIT—Consisting of type A Kodachrome, Haze and Blue Fotoflood Filters and shade ..... $ 5.50

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transformer has three wires coming out of the secondary winding. Connect the two marked 6.3 volts, which are the same color, directly to the #2 and #7 lugs on your tube socket. The remaining lead may be snipped off and taped to prevent its shorting. Wire the transformer primary to the On-Off switch (SW3). The soldering lugs are numbered from 1 to 8 on the bottom of the tube socket and you should experience no difficulty there. Next, solder about a one-foot length of #20, single strand, hook-up wire to the plate, (#3 lug); the grid, (#5 lug); and from the cathode, (#8 lug). Before fastening the tube socket in your case, wire the cathode (#8) and the grid number two (#6) together. Now the tube socket can be installed in the cabinet with the wires, marked for easy identification, stringing out. The transformer can be fastened down at this time also.

A logical sequence of wiring would be to first connect all the wires from your tube socket, then wire the switches, the relay, the relay points and the output receptacles, and finally the 110-volt a-c input.

It should not be necessary to give a wire-by-wire description as the balance of the wiring may be accomplished simply by following the circuit. Any difficulties encountered can be quickly ironed out by a visit to your radio repairman, the clerk in the store where you bought your parts, or a friend who is familiar with radio or electrical circuits. It may help if you cross out the wires on the diagram with red or blue pencil as you connect them in place—first being sure that it is being connected to the right places. A wire has only two ends and if you find you have a wire with three ends —better take a minute to check up and make sure you are on the right track!

Check over the wiring with the diagram and be sure that no connection has been omitted and also check to make sure that no wires are connected in the wrong place. Check to see that you have no short-circuit or bare wires touching the metal cabinet.

Now you can put the tube in place and plug your timer into the current supply. Insert your enlarger plug into the "enlarger" receptacle and the safelight plug into the "safelight" receptacle, and you are ready to calibrate the device. Turn the On-Off toggle switch to the On position and check to see that the heater in the vacuum tube lights. If, after the timer has been on for fifteen or twenty seconds the tube gives off a slight bluish flash, the circuit is working and your relay should energize. (Up to this time the enlarger has been on and the safelight has been off.) When the initial "warm-up" period is over and the relay energizes, the safelight will automatically turn On and the enlarger will turn Off. Set SW1 at the 0 or no-resistance position and the SW2 at the first (3 meg) position and press and release switch #4. Time the interval during which the light is on and mark it on the panel. Follow this procedure to find the time value for each setting of both switches. SW1 will be about 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 seconds. SW2 will be about 10, 20, 30, and 40 seconds. By setting SW2 at 20 seconds and SW1 at 6 seconds, you will get a 26-second exposure and so on. If you feel more range might be necessary, you could provide for additional switching positions on SW2 and add 15-megohm, 18-megohm, 21-megohm resistances. The interval will increase about 10 seconds for each 3 megohms added.

When you have all the time intervals recorded for the switch 1 and 2 settings, you can remove the five switches from your front panel, give it a coat of flat white paint, and ink in the time values for the given switch settings as well as the operating positions for the three toggle switches. This would be On-Off for the a-c main line switch; TIME and OFF for the timing switch, and FOCUS-TIME for the focusing switch. Extension wires can be provided for SW4 and this switch could be fastened to a piece of wood with a hinged board mounted to depress the button. This would enable you to operate the device with your foot.

In use for exposures in excess of sixty seconds, or whatever the maximum time for your device might be, you can time twice at 33 seconds for a 66 second time interval or 45 seconds twice for a 90 second interval, etc. In some printing, you may want to give 10 seconds exposure for shadow detail, 20 seconds for the subject detail, 40 seconds for the sky, and perhaps 80 seconds to burn in highlight details. To accomplish this simply, set the timer at 10 and expose the whole print. Give another 10-second exposure while holding back the shadow portion. Set timer at 20 and expose while holding back main subject and shadow and expose while holding back main subject and shadow areas. And last, set timer at 40 and burn in your highlights. Any number of prints can be duplicated and all will have the same relative tones if you use this method to print those difficult negatives.

You will find this device a useful addition in your darkroom and if it saves you time and material, or enables you to get better prints, then it has justified its expense in labor and cash.—

Popular Photography Clarence L. Shafer, Jr.

"I guess this means you forget again about the prints you're washing in the bathtub!"

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A single unit that fits over both lenses at once — insuring perfect alignment. Available in three models:

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Model No. 2 Focuses from 21" to 13"
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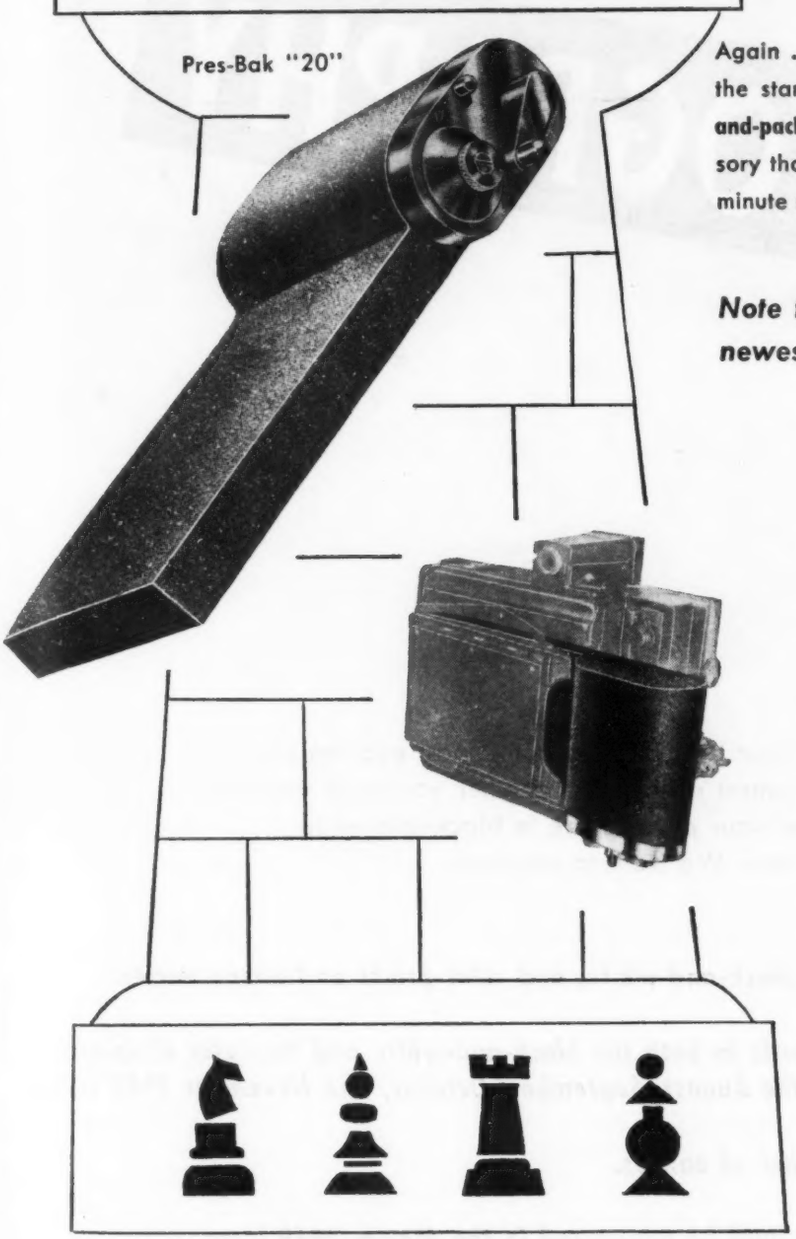

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★ ***Separate prizes for black-and-white, and color prints or transparencies.***

★ ***Special monthly awards in both the black-and-white and the color divisions, to be announced in the August, September, October, and November 1948 issues.***

★ ***No limit on the number of entries.***

★ ***Grand prize winners will be announced in the March, 1949 issue.***

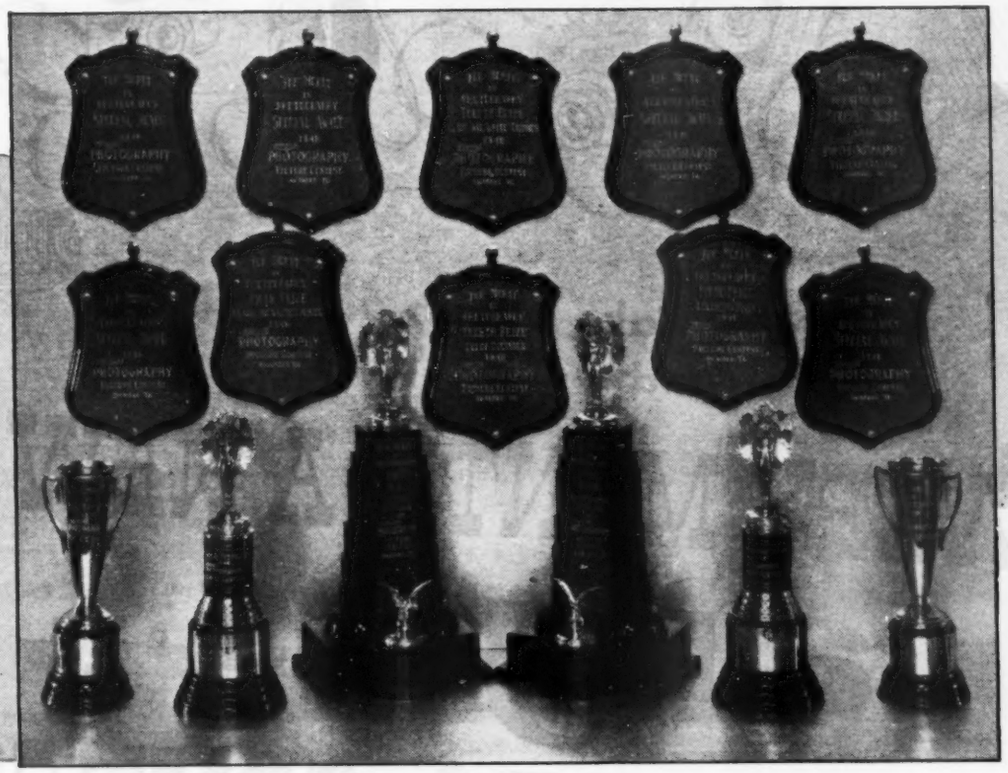
★ ***Grand Opening Exhibitions of prize-winning pictures held simultaneously in New York, Chicago, Cleveland, Philadelphia, Los Angeles.***

★ ***Gala Celebration in New York in honor of major prize winners.***

★ ***Five traveling exhibits for showings in principal cities of the world.***

FINAL CLOSING DATE: OCTOBER 1, 1948

BIGGEST PHOTO CONTEST



Equivalent to the famous "Oscars" awarded in the movie industry, these gleaming trophies and plaques will go to the top winners in the Black-and-White and Color Classes of the 1948 POPULAR PHOTOGRAPHY Photo Contest.

648 PRIZES*

Black and White			Color			Total
1st,	U.S. Savings Bond .... plus Trophy	$5,000	1st,	U.S. Savings Bond .... plus Trophy	$5,000	$10,000
2nd,	U.S. Savings Bond .... plus Trophy	$2,500	2nd,	U.S. Savings Bond .... plus Trophy	$2,500	5,000
3rd,	U.S. Savings Bond .... plus Trophy	$1,000	3rd,	U.S. Savings Bond .... plus Trophy	$1,000	2,000
4th,	U.S. Savings Bond .... plus Plaque	$500	4th,	U.S. Savings Bond .... plus Plaque	$500	1,000
5th,	U.S. Savings Bond .... plus Plaque	$250	5th,	U.S. Savings Bond .... plus Plaque	$250	500
100	Prizes, U.S. Savings Bonds, each.....	$100	100	Prizes, U.S. Savings Bonds, each.....	$100	20,000
150	Prizes, U.S. Savings Bonds, each.....	$50				7,500
288	Prizes, U.S. Savings Bonds, each.....	$25				7,200
						$53,200

24 AWARDS*

Six additional awards will be given in each of four months of the contest as follows:

Black and White			Color			
1st,	U.S. Savings Bond .... plus Plaque	$500	1st,	U.S. Savings Bond .... plus Plaque	$500	$ 1,000
2nd,	U.S. Savings Bond	$250	2nd,	U.S. Savings Bond	$250	500
3rd,	U.S. Savings Bond	$100	3rd,	U.S. Savings Bond	$100	200
						$1,700

each month for four months = 6,800

672 PRIZES AND AWARDS TOTALING $60,000

SEE PAGE 153 FOR RULES AND ENTRY BLANK

* Values given are maturity values of the bonds. Bonds will be delivered in denominations requested by prize winners. Each prize will be accompanied by a certificate of award suitable for framing. This certificate is printed on fine parchment stock, and will bear the hand lettered name of the winner.

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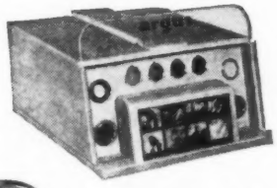

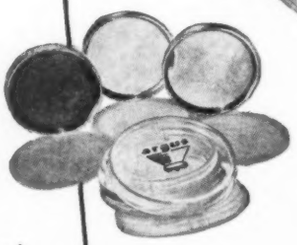

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Foresight in Filming

BY
GEORGE CARLSON

Interesting film subjects are all around us. Author Carlson suggests that the amateur work up new angles on old subjects

Father shaving is a typical sequence for a film that can be made to show the happenings of an average day in your home. The author suggests employing an opening scene like a sunrise; perhaps a hand winding a clock for the fadeout.

PERHAPS the biggest percentage of amateur movie making is of the baby, family subjects, vacation and travel. Nature filming comes in for its share, in the zoo, flowers and gardens, animals and birds. Ordinarily these subjects are enough to keep the average amateur busy with his movie outfit. However, there are between times when, if the subjects don't begin to pall, there "just doesn't seem to be anything new to film." Vacation and travel films are seasonal and can be much the same. The garden and zoo reels may be completed and, as for the Family Album, that "can be filmed anytime" and so on.

The solution as to what to film sometimes can lie close to home and may need a new angle on an old subject or consist of specializing in something a little out of the ordinary.

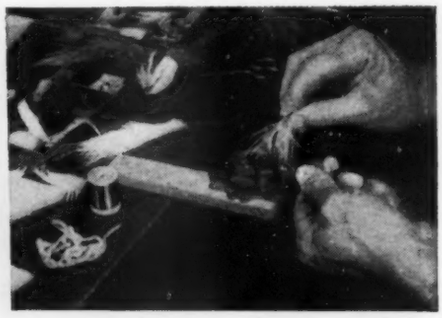
As family films are important, instead of the usual "mug" shots, going on a picnic, and so forth, time after time, why not a complete film on the activities of your family in a single day? Make a full story with continuity throughout and show what goes on in your home in the ordinary average day from an opening sunrise to a final fadeout of a hand winding an alarm clock. I made a film like this a couple of years ago—called it "All In a Day"—and just because of the story effect and continuity, it seems to be one of my most popular films although I made it primarily for my own enjoyment.

A film like this will require planning, and it is best to make a script of a sort to follow fairly close. Opening shots could consist of a sunrise (a sunset will do), a sparrow sitting on a wire preening his feathers, milk bottles being set on the back steps, the morning paper landing on the porch (or in the bushes), a close-up of a pair of feet sticking out from under the blankets, Father shaving, and so on through the day. Members of the family can be filmed away from home at their day's work or, if this is not practical, might be suggested symbolically in close-ups simulating what they do. "Interim" shots showing what goes on at home—from shopping, cleaning, and other usual average day activities to backyard gossip with the neighbors—are all good film material. Close-ups of a clock can be used to show the passing of time when useful. The evening's activities can be shown—the pinochle game,

(*Continued on page* 158)

Hobby films showing friends and relatives in their home workshops constructing furniture or working on plastics or metal, make interesting film sequences.

Raising canaries a subject that has endless potentials, is just one of many films that the amateur can make on pets as a hobby. Try a series on your dog.



It's an art to be able to tie your own fishing flies. So catch that fisherman friend at work. In color, a film on the making of artificial flies would be ideal.

TRAY and TANK DEVELOPMENT of Movie Titles

Photographs and text by
JAY A. SMITH

Short title strips can be developed uniformly (just like still negatives) by see-sawing through the developer tray.

Home processing of 8 mm or 16 mm black-and-white titles is fast, easy, satisfying—and the results are excellent

HAVE you completed one of your movies to your satisfaction, only to find, on projection, that one solitary title was still required? I'll bet you have. Or have you photographed all your titles except the last one or two just as the film ran out? I've done that, too.

These two situations can be remedied by processing that one remaining title in your darkroom with the equipment you have. You won't have to get elaborate reels, and special tanks, and special solutions. You can do the job with the trays you have, or with tanks that you can make from fruit jars, lard buckets, or whatever you have handy. And the results will be excellent, too!

Or perhaps you are a lucky individual and never make mistakes. You can process you own titles and (1) get the results immediately without waiting for the processer to do the work for you, (2) or obtain special effects, such as high contrast, a negative image, or tinted or toned titles, (3) you can always be positive of the exposure, obtaining just the right degree of density and contrast, by the use of test strips.

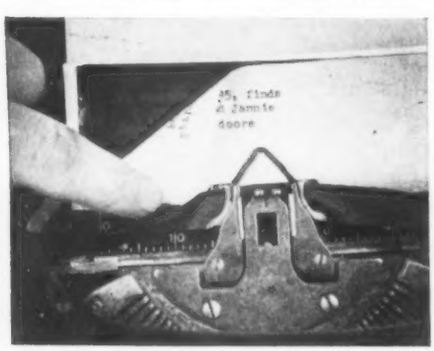
The tray method about to be described offers certain advantages for everyone. Give it a try and be convinced!

Processing consists of developing, fixing, washing, and drying exactly like you process your still negatives, using trays or home made tanks. Now this isn't as foolhardy as you might think. If you're reasonably careful, you won't scratch the film, and if you agitate gently but adequately, development will be uniform. The whole procedure, from the time you make the title to be photographed until you splice the finished film strip into the movie will not take more than half an hour or so. Half an hour isn't much to sacrifice to make that motion picture gem perfect, is it!

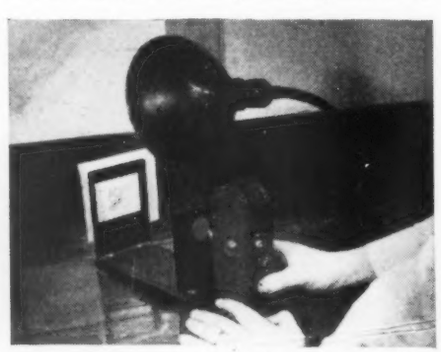
The procedure is simple, consisting of only four major steps: first, making the title to be photographed; second, photographing the title; third, processing the film; and fourth, tinting or toning the film strip.

Let's look at the details of each step.

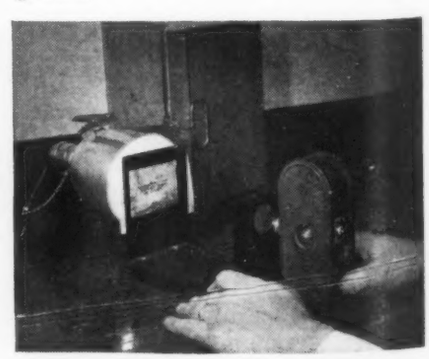
The first step consists of making the title you intend to photograph. Remember you will get a negative image instead of a positive one. Any sort of a titling set works excellently. I usually prefer one which gives black letters on a white background, which, when processed, gives white letters on a black background.



Typewritten titles give best results with new ribbon, and with carbon flopped, impressing both front and back of paper.



Conventional typed title is slipped into a titler and filmed in the usual manner, using a floodlamp illumination.

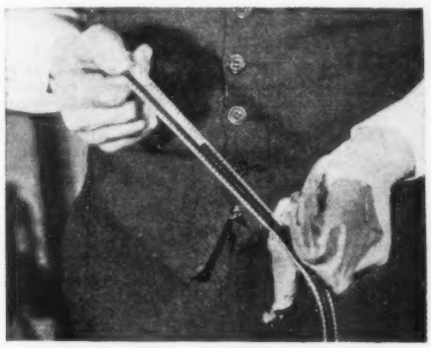


Scenic title is made by typing message on thin paper, combining it with suitable negative, and filming by transmitted light.

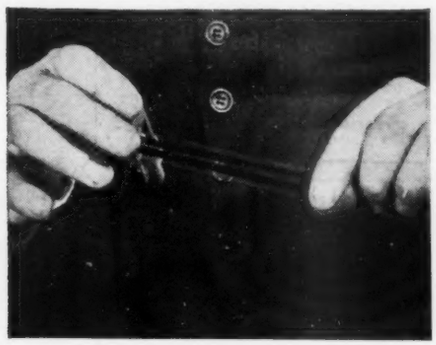
Necessary equipment includes four trays. Under a suitable safelight (for orthochromatic film), film is soaked in water, then transferred, as shown, to the developer.

Film is kept under the surface of the developer, and agitated gently for uniform development. When using panchromatic film, processing must be in total darkness.

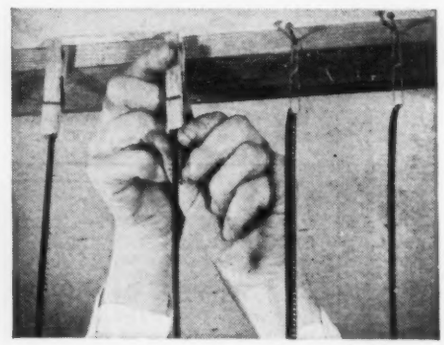
After development, film is transferred, as shown, to the short stop, then to hypo where it clears, then to tray of water. If handled gently, the film will not scratch.



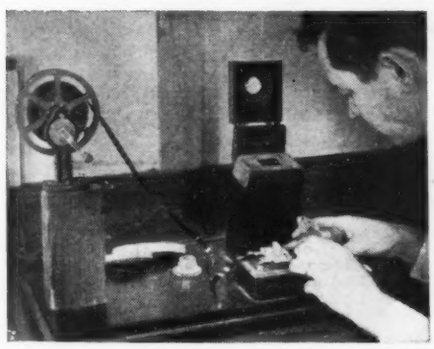
When fixing and washing are completed, excess water is removed from film by squeegeeing with a chamois. Handle film carefully as emulsion is soft at this stage.



Eight mm film is then slit. If the film is to be tinted or toned, it should be slit after washing, then tinted or toned. Otherwise, it should be slit after drying.



Strips of film are then dried by hanging them in a moisture-free, dust-free place. Spring-type clothes pins or metal paper clips serve adequately as film hangers.



After title strips are dried, they are spliced into the movie. This process gives excellent titles, and saves much inconvenience when only a few titles are required.

Bottles with their tops cut off can be substituted for trays. The procedure, however, is exactly the same. The author tells how to cut bottle tops off neatly.

Use a tank of some sort when developing with fine-grain developers. If you lack a conventional tank, use a pail with a tight-fitting lid, or a quart canning jar.

Of the latter, typewritten titles look neat and are easy to make. Other kinds can be used, of course, with perfect results. You can make two kinds of titles, plain black-and-white ones, or scenic titles. Plain black-and-white titles consist of white letters on a black background; they are ideal for most purposes and take least time and effort. Scenic titles consist of white letters superimposed on a suitable scenic background; they are beautiful, but take more time and work, and always show the grain of the paper you type the message on. Here is the way to make both kinds of titles to be photographed.

To make plain black-and-white titles, type the desired message on good grade bond paper, using a new piece of carbon paper facing the back of the bond paper, as shown in the illustration. Wall paper with a small and inconspicuous design may be successfully substituted for the bond paper. The title, so prepared, is placed in the titler and illuminated (see illustration).

To make scenic titles, first select a suitable negative that will fit the titler. This negative should have good contrast, be of medium density, should have a thin area, such as the sky, where the written message is to appear. It should also fit the movie in subject matter. This negative is placed in the titler. Second, type the written message on thin paper free of water marks and imperfections, as described above. Place this typed message in back of the negative in the titler, and illuminate from behind as illustrated. The paper thus serves as a diffuser. The light is usually a 60-watt bulb in a suitable reflector.

The second step in processing your own titles is the actual photographing of the title. Two things must be done correctly, first, exposure must be correct, and second (8 mm fans only), the film must be inverted after photographing half the titles, so that no film will be wasted.

Determination of the correct exposure can best be done by trial, aided initially by an exposure meter if desired. Take a meter reading on the title, as you always do, and calculate the correct exposure. Now expose a few inches of film, process it as described below, and project it. If the white letters are partially blocked up, use a smaller diaphragm opening; if the background is too light, use a larger

(*Continued on page* 154)

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A highway safety motion picture which pioneers the use of three-dimensional, scale-model animation to demonstrate ten of the leading causes of highway accidents in the country today.

* * *

HOOK, LINE, AND SAFETY. 17 minutes, 16 mm sound, color. Available without charge for specific showings, from Aetna Life Affiliated Companies, Hartford 15, Conn.

This film pictures a fishing trip in the north woods during which an experienced angler, by his example, gives the novice, who is accompanying him, many pointers in safety and woodcraft.

* * *

PARTNERS IN PRODUCTION. 17 minutes, 16 mm sound, color. Available without charge for specific showings, from Aetna Life Affiliated Companies, Hartford 15, Conn.

This is an industrial safety film showing actual shop operations. The cooperation of every worker in the plant safety program is sought.

* * *

COAL CRISIS. 2 reels, 22 minutes, 16 mm sound. Rental $2. British Information Services, New York office, 30 Rockefeller Plaza, New York 20, N. Y.; Chicago office, 360 North Michigan Avenue, Chicago 1, Ill.

A film emphasizing the importance of coal to the future of Britain. The coalfields of Britain have untapped reserves which can

last for more than 100 years. The legacy of labor difficulties and the problem of attracting miners back into an industry that they had grown to distrust are all problems which the Coal Board has to face, for the success or failure of Britain's fight for economic survival depends on coal.

* * *

THE BIOGRAPHY OF THE MOTION PICTURE CAMERA. 2 reels, 20 minutes, 16 mm sound. A.F. Films, Inc., 1600 Broadway, New York 19, N. Y.

This is the second of two two-reel films, which can be shown independently or together, concerning the birth of the motion picture. This second part follows the development of the motion picture camera. Produced by Roger Leenhardt, this film shows that to be able to photograph and reproduce living movement, movement itself had to be understood first. We see the first man to undertake a scientific study of movement, Marey, a French physician. In analyzing the gallop of a horse in one of the experiments shown in the film, he determined that the animal rests momentarily on only one leg. This was disputed on both sides of the ocean and settled experimentally by Edward Muybridge, a San Francisco photographer, who used a battery of 24 cameras to catch the successive stages of a horse's movement. The film then discusses the problem of having to create a camera which would be able to do the job of Marey's multiple cameras on one photographic plate. Marey, among others, achieved this by inventing the chronophotograph. We then see that it fell to Thomas Edison to invent film which he used in a motion picture camera. As early as 1888, Edison was making films, several of which are shown in the film, with a camera of his own invention. Edison also invented a projector but his viewing machine was intended in France who invented a successful com-

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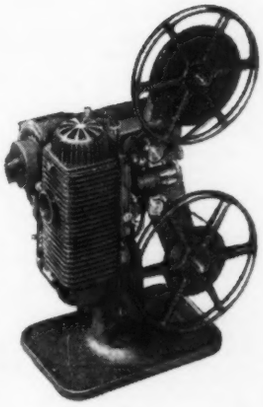

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mercial projector which could show films to a larger audience. Lumiere also started to make films about everyday events, which are also shown in the film.

* * *

AFRICAN BIG GAME. 2 reels, 20 minutes, 16 mm sound. A.F. Films, Inc., 1600 Broadway, New York 19, N. Y.

This movie is an on-the-spot account of hunters bagging big game, rare skins, and ivory in the Ubangi-Chari region of French equitorial Africa. By day and night, caravans cut through the dangerous underbrush and rivers encountering unusual experiences with wild life. The cast includes lion cubs, jabirus, crocodiles, elephants, antelopes, leopards, buffaloes, deer, wort hogs, mongeese, and other animals.

* * *

LET'S SING. Available at photo dealers. A Castle Film.

A new type of musical home movie is announced by Castle Films in their "Let's Sing" series, for sound projector owners only. These single reel subjects featuring popular bands and singers are produced not only for entertainment but to induce audiences to sing with them—the words appear-

ing on the screen. Many of the old favorite "barbershop" tunes invariably bring out the singing talent of guests in the living room.

* * *

ANIMATED CARTOONS: THE TOY THAT GREW UP. 2 reels, 17 minutes, 16 mm sound. A.F. Films, Inc., 1600 Broadway, New York 19, N. Y.

This film is one of two two-reel films, which can be shown independently or together, about the birth of the motion pictures. This first part deals with animated cartoons. Although magic lanterns have been in vogue for many years, it was not until the invention of a child's toy that the first step was taken towards today's motion pictures. This toy, the traumatrope, the film shows us, led the Belgian physicist, Joseph Plateau to study a characteristic of the human eye called persistence of vision. Plateau established that the retina of the eye retains an impression of a luminous object a full third of a second after the actual light source disappeared. Plateau used this scientific fact to make up a machine that seemed to animate static drawings. Emile Reynaud developed Plateau's machine further and was the first to show animated cartoons. Reynaud perfected his machine, the Praxinxoscope, to such a degree that with it he could put on a real theatrical performance, lasting a quarter of an hour. The animated cartoons of Reynaud, of which one complete story is shown in the film, are as full of fantasy and almost as scientifically accurate as the product of today's animation studios.

* * *

SHOWN BY REQUEST. 2 reels, 20 minutes, 16 mm sound. Rental $2. British Information Services, New York office, 30 Rockefeller Plaza, New York 20, N. Y.; Chicago office, 360 North Michigan Avenue, Chicago 1, Ill.

This is the story of non-theatrical (16 mm) film distribution in Britain. Mobile units take films to audiences which have no projector and the government's Central Film Library sends films by mail to people with privately or community owned projectors. As a film library technique is shown in some detail, the film is particularly useful to teacher-training institutions.

* * *

PATTERN FOR PEACE (Charter of the United Nations). 2 reels, 15 minutes, 16 mm sound. Rental $2. British Information Services, New York office, 30 Rockefeller Plaza, New York 20, N. Y.; Chicago office, 360 North Michigan Avenue, Chicago 1, Ill.

In the spring of 1945, after defeating Nazi Germany, the 51 nations who had fought together as one united power were now faced with newer and more complex problems. As urgent and important as the war they had just won, the United Nations were faced with the problems not only of maintaining the peace but also of creating social and economic conditions favorable to peace.

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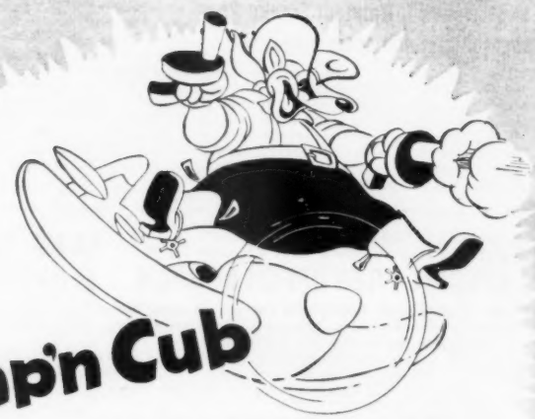

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Because of the excellent animation supporting live action sequences, this film is well suited for all groups, both school and adult, who wish a better understanding of the working of the United Nations. This film explains its points of construction and the many problems with which it is confronted.

* * *

STRICTLY IN THE GROOVE. 63 minutes, 16 mm sound. Cosmopolitan Films, 3248 Gratiot Avenue, Detroit 7, Michigan.

Ozzie Nelson and Grace MacDonald supply music and romance, and Leon Errol's comedy make this a diverting musical.

* * *

GIVE US WINGS. 60 minutes, 16 mm sound. Cosmopolitan Films, 3248 Gratiot Avenue, Detroit 7, Michigan.

The Dead End Kids take flying lessons in a drama with action, laughter, and suspense. The cast also includes Wallace Ford and Victor Jory.

* * *

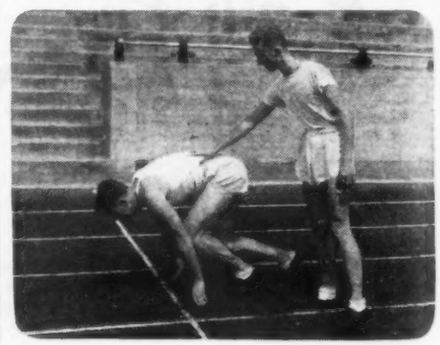
STATE POLICE. 60 minutes, 16 mm sound. Cosmopolitan Films, 3248 Gratiot Avenue, Detroit 7, Michigan.

State police break up a gang of racketeers who have taken over a small mining town. Stars are William Lundigan, Constance Moore, and John King.

* * *

SPRINTS. 2 reels, 16 mm sound. Sale $90; rental $3. United World Films, Inc., 445 Park Avenue, New York 22, N. Y.

This first of a new training series produced by United World Films, in cooperation with the Amateur Athletic Union and the United States Olympic Committee concerns the fundamentals of the 100 yard dash and 220 yard dash—demonstration of impact style and natural stretch stride, synchronization of leg and arm action, conditioning exercises, starting techniques, curve starts, and slow motion demonstration of muscular utilization and coordination.



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BUTTERFLY BOTANISTS. 1 reel, 16 mm sound. Black-and-white $45; color $90. Coronet Instructional Films, Coronet Building, Chicago 1, Ill.

Butterflies are expert botanists, able to recognize and select with amazing accuracy the plants they need for food. Their relationship with plants, their life cycle story, and their economic importance are dramatized here with Monarch, Fritillary, Viceroy, Wanderer, and other important species shown in egg, larva, chrysalis, and adult stages.

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JACK'S VISIT TO COSTA RICA. 1 reel, 16 mm sound. Black-and-white $45; color $90. Coronet Instructional Films, Coronet Building, Chicago 1, Ill.

Jack's ride on a Costa Rican carretta was just one of the many unusual experiences of his visit. He went to a Costa Rican school with Mario; he saw the native market; and he visited a coffee plantation, a balsa mill, and a cocoa plantation. Living with a Costa Rican family gave Jack the opportunity to compare their way of life with his own in the United States.

* * *

BUILDING TYPING SKILL. 1 reel, 16 mm sound. Black-and-white $45; color $90. Coronet Instructional Films, Coronet Building, Chicago 1, Ill.

As George pushes into higher speed areas, he finds that his typing tends to become less smooth and accurate. By practice of skill-building exercises, he masters relaxation, precise operative control, attention to the copy, control of his arms and hands, and self confidence. The Coronet camera brings typists slow motion detail of George's skill-building exercises and provides compelling motivation for practice.

* * *

DAUGHTERS OF INDIA. 1 reel, 10 minutes, 16 mm sound. Rental $1.25. Films of the Nations, Inc., 55 West 45th Street, New York 19, N. Y.

India women are stepping forth from their traditionally sheltered lives and taking

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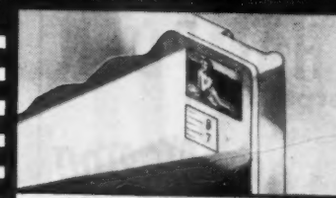

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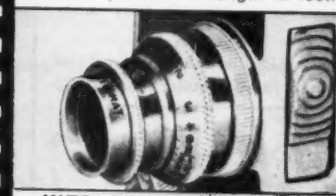

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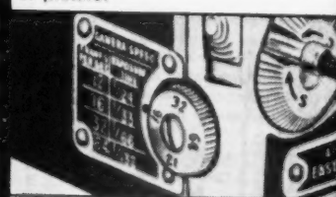

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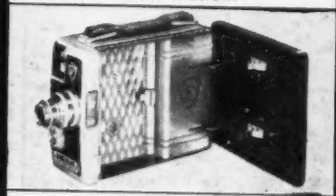

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only for one onlooker. It was Louis Lumiere an active part in public affairs. Chand Bibi, the Warrior Queen, and Padmini of Chitore are followed by glimpses of Indian women today participating in many fields of national activity, practising the fine arts, and training for useful and important vocations.

* * *

PEOPLES OF THE U.S.S.R. 4 reels, 35 minutes, 16 mm sound. Rental $6. Films of the Nations, Inc., 55 West 45th Street, New York 19, N. Y.

This film, photographed by American cameramen, offers a truly over-all concept of this vast country with its many separate and distinct peoples. It shows many of the more than 100 different nationalities included in the 190,000,000 people comprising the Soviet Republics. It begins with the people of Moscow and Leningrad, and then, in quick succession, there follow pictures of the Karelians, the Armenians, the Georgians, the Tartars, the Buryat-Mongolians, the Jews, the Ukranians, the Uzbeks, and others. The audience comes to know these people of many races and how they fit into the pattern of life in the Soviet Union.

* * *

THE WIND FROM THE WEST. 2 reels, 18 minutes, 16 mm sound $2.50; 16 mm silent $2. Films of the Nations, Inc., 55 West 45th Street, New York 19, N. Y.

This picture is a charming blend of fact and fantasy. The land of the Lapps in northernmost Sweden is the setting—scenes of beauty and grandeur. In a schoolhouse, young Nils sits dreamily longing that he might go with the older Lapps on their yearly migration to the mountains. Presently the boy dozes, and in his dream the voice of the Wind from the West speaks to him, and takes him on a dream-visit to the mountains. A unique film, noteworthy for its beautiful photography, and charming story with instruction about a little known part of the world.

* * *

LITTLE MISS BIG. 63 minutes, 16 mm sound. Rental $15. United World Films, Inc., 445 Park Avenue, New York 22, N. Y.

A crochety old maid, reportedly the richest woman in the world, escapes from an asylum where relatives have had her confined in an attempt to get her money. She and her dog are sheltered—the dog dis-

guised by a drastic haircut—by poor people who, unaware of her wealth, shower her with the affection she has secretly always craved. When she finally resumes her rightful place in the world, she is a happy person, and the poor people who befriended her are well rewarded.

LOST CITY OF THE JUNGLE. Serial of 13 chapters, 2 reels each. Rental $3 per episode. United World Films, Inc., 445 Park Avenue, New York 22, N. Y.

The atom bomb and the possession of a substance believed to be a defense against it furnished the basis for the conflict between secret investigators for the United Peace Foundation and an international war monger. The stars are Jane Adams, Russell Hayden, and Lionel Atwell.

* * *

THE STRANGER FROM PECOS. 6 reels, 58 minutes, 16 mm sound. Post Pictures Corporation, 115 West 45th Street, New York, New York.

A U. S. Marshal Western with Johnny Mack Brown, Raymond Hatton, Kirby Grant, and Christine McIntyre. A gang of thieves, including a ruthless sheriff and a town's banker, pitted against a pair of U. S. marshals. It takes a bit of doing plus a rousing, riotous battle to help law and order win its case against the outlaws.

* * *

ITALY. 17 minutes, 16 mm sound. The March of Time, Forum Edition, 369 Lexington, New York 17, N. Y.

When Italy was eliminated from the war by the onward march of the Allies, battle-weary Italians were jubilant. But their rejoicing swiftly vanished before a bewildering realization that the consequences of the war they entered upon so lightly were

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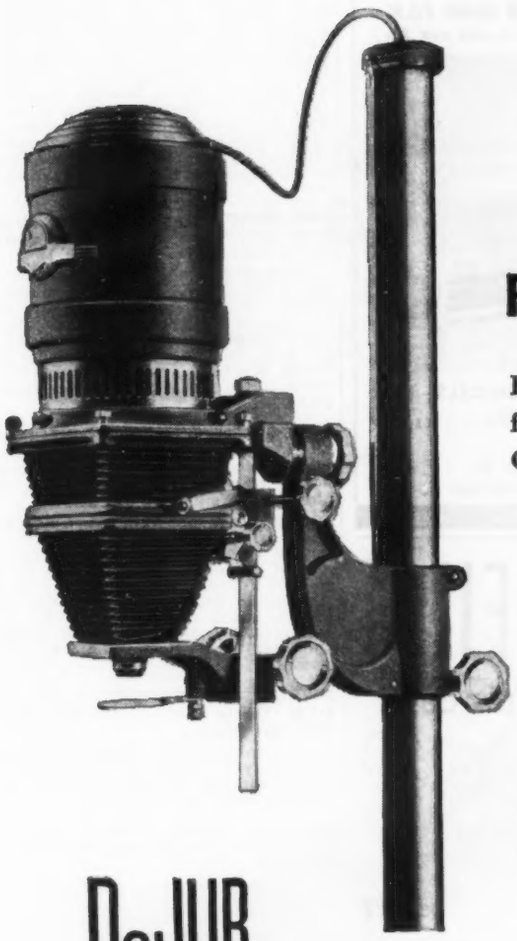

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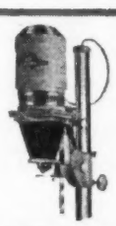

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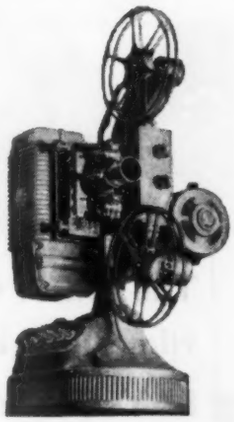

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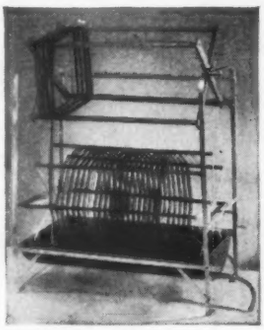

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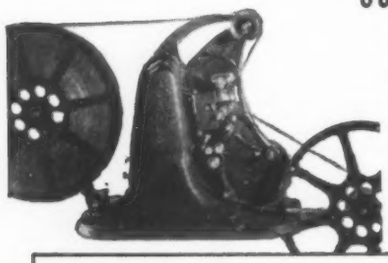

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not easily escaped. This film presents the story of modern Italy, with emphasis on the chaotic condition of that vanquished nation at the end of the conflict. The film also contains an absorbing sequence on Vatican City, politically independent capital of the Roman Catholic world.

* * *

THE PHILIPPINE REPUBLIC. 16 minutes, 16 mm sound. The March of Time, Forum Edition, 369 Lexington Avenue, New York 17, N. Y.

Newest member of the world's family of free nations is the Philippine Republic, granted her independence by the U. S. on July 4, 1946. The film shows how, for 47 years following the Spanish-American war, the 7,083 islands comprising the Philippine archipelago were heavily dependent upon the U. S. for their economic life and health. Pictured comprehensively are the educational system and political composition of the island. Pictured also is the valiant role played by the Philippine people in the recent war.

* * *

THE FRENCH CAMPAIGN. 19 minutes, 16 mm sound. The March of Time, Forum Edition, 369 Lexington Avenue, New York 17, N. Y.

Never before has such a record of a campaign in a great war been made available to the general public. Here the tremendous drama of a great military campaign is photographed on the spot. Here is the story in maps and action shots of the United Nations' strategy of liberation which culminated in the freeing of France from the Nazi yoke.

* * *

SIXTY SECONDS TO SAFETY. 10 minutes, 16 mm sound. Available for bookings without cost through Film Library, National Board of Fire Underwriters, Bureau of Communications Research, 12 East 44th Street, New York 17, N. Y.

A minute may be saved by tossing old rags into an out-of-the-way corner of the school basement; or an hour by skipping a school fire drill. But all that is saved may be lost forever when disaster strikes. This film tells what may be forgotten, and it shows what can be done in a well administered school with the cooperation of the local fire department, to prevent disasters.

SWINGING THE CLASSICS. 1 reel, 16 mm sound. $17.50. Official Films, Inc., 25 West 45th Street, New York, New York.

A combination of three Soundie shows on one reel. This one featuring the Three Suns contains, *William Tell Overture, Anvil Chorus,* and *Song of India.*

* * *

FUN WITH MUSIC. 1 reel, 16 mm sound. $17.50. Official Films, Inc., 25 West 45th Street, New York, New York.

This is a combination of three Soundie shows on one reel, and contains "Our Teacher" with Henny Youngman, "Margie" with Van Alexander, and "G Strings" with Frank Pinero.

* * *

HOT ICE. 1 reel, 16 mm sound. Sale $17.50. Available also in 8 mm, $5.50, and 16 mm, $8.75, silent versions. Sterling Films, Inc., 1186 Broadway, New York 1, N. Y.

Being the "fastest game on earth," hockey has been less filmed than other favorite American sports. But this film now brings hockey to the screen in all its fast action and interesting detail. Youngsters on wobbly legs learn the sport on the town's frozen pond. School coaches and local teams develop the game's body and character building possibilities, teach stick handling, body checking, the rules, and "hockey brains." From the amateur field, the film moves to the big-time, goes behind the scenes in the locker rooms and out on the ice of the Garden as Toronto and the Rangers clash before enthusiastic fans.

SEWING FUNDAMENTALS, AND SEWING—SLIDE FASTENERS. 1 reel each, 16 mm sound. Price $38.50. Young America Films, Inc., 18 East 41st Street, New York 17, N. Y.

These two films are continuations of the Sewing Series begun with "Sewing Advanced Seams," and "Sewing Simple Seams," all designed for home economics instruction in high school, trade school, college, and women's groups.

BRYCE CANYON. 50 ft. 8 mm; 100 ft. 16 mm. Available in Kodachrome or black-and-white. World In Color Productions, Elmira, New York.

World In Color Productions announce that their latest National Park film entitled "Bryce Canyon" will be released in two short editions—Bryce No. 1 and Bryce No. 2. Because of the extraordinary subject matter in Bryce which features the "Golden Cities of Stone," many purchasers of the first Bryce film have requested additional

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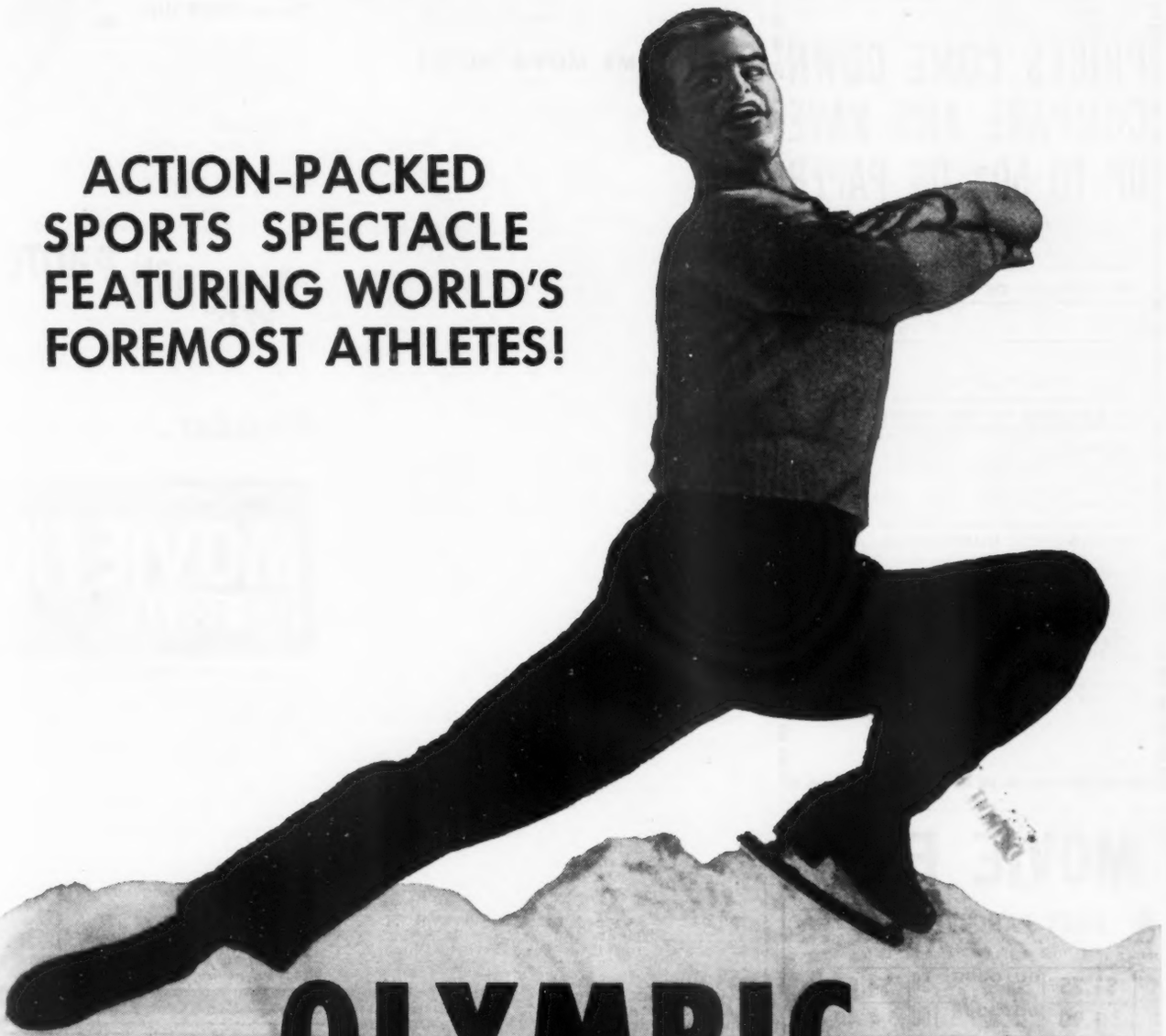

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footage. The second edition is printed without main title, allowing the purchaser to splice directly to reel No. 1 by merely clipping the end title from the first reel.

* * *

INSIDE JOB. 65 minutes, 16 mm sound. Rental $15. United World Films, Inc., 445 Park Avenue, New York 20, N. Y.

The influence of a small boy and his dog causes a crime-bent young couple to give up their chance of escape in order to rescue the boy's father, a policeman. The players are Preston Foster and Ann Rutherford.

HOME MOVIE NOTES

The Dallas office of the Y.M.C.A. Association Films Motion Picture Bureau is now located at 3012 Maple Avenue, Dallas 4, Texas.

* * *

Seven universities throughout the United States have been selected to award Encyclopaedia Britannica Films summer tuition scholarships for audio-visual study during the summer of 1948, it was announced by Stephen M. Corey of the University of Chicago, chairman of the educators' committee which made the selections. Teachers and educators desiring to apply for the tuition scholarship awards should write directly to the following universities where the fourth annual EB films scholarships will be awarded: University of California at Los Angeles, University of Chicago, Indiana University, Oklahoma University, Pennsylvania State College, Syracuse University, and University of Wisconsin.

* * *

United World Films, 445 Park Avenue, New York 22, New York, are offering a new free illustrated catalogue of Motion Pictures for Churches, describing more than 125 outstanding religious subjects to churches and schools who request it.

* * *

The National Association of Visual Education Dealers, Inc., held a successful southern regional meeting recently in Atlanta. E. E. Jack Carter of Raleigh, NAVED regional director, reported that 110 persons attended, including film library operators, visual education dealers, and salesmen from eight southern states. Also present were representatives of 24 film producers, distributors, and manufacturers. The southern meeting was the first of a series of six regional gatherings to be held by NAVED.

* * *

Six new color slide sets have further expanded the Society for Visual Education Inc. series, "Visualized Units In Color." This series, organized according to curriculum units, already lists more than 100 different sets in the arts, sciences, and social studies. Each set consists of ten or more 2x2 color slides with instructional guides. New titles in this series include: "The Virginia Colonial Legislature," "A Visit to Morocco, Northwest Africa," "Air Travel, Airport Activities," "Air Travel, Passenger Service," and "Air Travel, Mail, Express, Freight, and Baggage." S.V.E. is located at 100 East Ohio Street, Chicago, Illinois.

* * *

In addition to the Universal and J. Arthur Rank features supplied by its deposit-sharing plan, United World Films now offers film dealers and libraries a non-sharing long-term lease on a "package" of thirteen western features, the same number of short subjects, and a choice of three 13-chapter serials. These features are all Universal productions, not heretofore released in 16 mm. Inquiries should be addressed to the Entertainment Film Division, United World Films, Inc., 445 Park Avenue, New York 22, N. Y.

* * *

Movie production is going on apace at New Institute for Films, 29 Flatbush Avenue, Brooklyn, New York. Students are at work on three original film stories, concerned with the mechanical features of a motion picture camera, pictorial continuity, and trick effects. These pictures are the first in a series of training films for motion picture enthusiasts.

* * *

A unique plan which gives home movie owners the use of ten films for the price of one has been put into operation by Round Robin Films, 369 Lexington Avenue, New York 17, N. Y. With the purchase of one film, the purchaser becomes a Round Robin member and is assigned to a roster comprised of nine other members. Each member then circulates the film he has purchased to the member whose name succeeds his on the roster, receiving, in return, a film from the member whose name precedes his. In this way, every member has the use of two films a month for a period of five months. At the end of the cycle, the film originally

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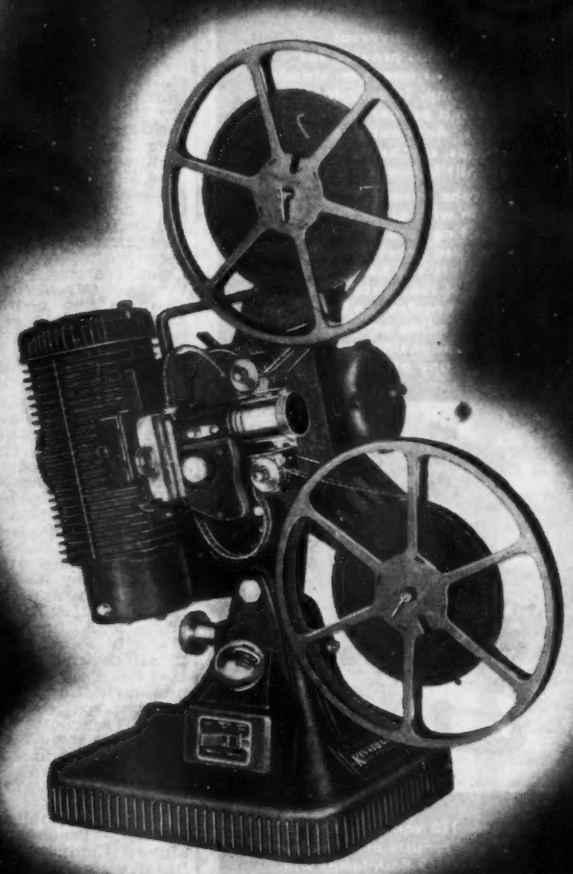

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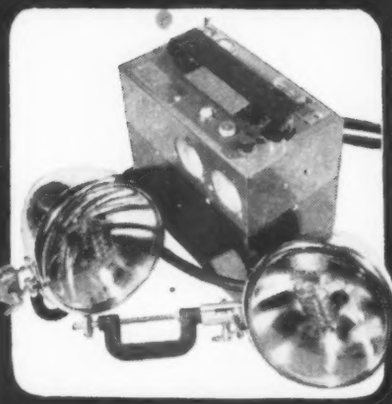

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purchased by a member is returned to its owner. Further details and a portfolio of programs may be obtained by writing to Round Robin Films.

* * *

Harold Baumstone, advertising and sales promotion manager of Post Pictures Corporation, 115 West 45th Street, New York City, announces the availability of the company's new 1948 catalogue comprising 76 pages of the latest home movie programs issued and distributed by Post, including a Monogram Pictures program consisting of 36 new feature pictures. The new catalogue is free.

* * *

Films of the Nations, Inc. have acquired the exclusive sales rights for the new British Information Services film, "The Three A's." This film explains how the age, ability, and aptitude of each child must be taken into account to ensure that he gets the best education possible. The sale price is $44.

* * *

A new series of slidefilms on "Using Numbers" has been released by Encyclopaedia Britannica Films, Inc. By stimulating children to use numbers in actual life situations, the 16 filmstrips in the series teach the meaning, sequence, and use of numbers from one to one hundred, providing basic material for the child's earliest number experiences in school. Collaborators for the series were John R. Clark, Ph.D., Teachers College, Columbia University, and Caroline H. Clark, Child Education Foundation, New York City, both recognized authorities in the field of arithmetic in the primary grades. The films are available from Encyclopaedia Britannica Films Inc., 1150 Wilmette Avenue, Wilmette, Illinois.

* * *

Just imagine toads that climb walls—bugs flying in tandem — 114-degree heat—sand bars in Galveston Bay—if you want to be a motion picture producer, you have to prepare for the unusual.

So reports Gail Papineau, production manager for the Raphael G. Wolff Studios in Hollywood, producers of "Lease on the Future," the General Electric picture showing the benefits of increased oilfield electrification, now in the final stages of completion.

The toads, says Gail, have suction pads on their feet that enable them to climb not only walls but windows, and there they hang, feasting on bugs that are attracted by the lights beyond the glass. Gail's most frequent bug visitors came in pairs. The female, being larger, was constantly towing the male around.

In Bakersfield, California, the camera crews worked in 114-degree heat; in Galveston Bay they worked on a barge just 10 miles from ill-fated Texas City. Arising at 4:00 a.m. to get the barge in time to work, the crew failed to judge tide and sand bars properly. Result—stuck. The next day the motorboat caught fire. Life, on production, is more than turning a crank.

Praise of Encyclopaedia Britannica Films' new sound motion picture entitled "Atomic Energy" has been voiced by John M. Hancock, former U. S. representative on the United Nations atomic energy commission, and also by the National Committee on Atomic Information, according to announcement by C. Scott Fletcher, president of the educational films company.

Castle Films releases four new Westerns in all their standard home movie editions, two for 8 mm projectors, and three for 16 mm, including sound on film. The new home movies are entitled "Stampede," "Texas Trail Treachery," "Cowboy Justices," and "Code of the West." They are available at photographic stores.

* * *

With the publication of a new 34-page booklet, "Teaching Eternal Truths," Bell & Howell Company has extended its comprehensive line of literature designed to guide those who have specialized uses for motion pictures and slides. Printed in two colors, and illustrated with photographs, this booklet covers such subjects as how and when to use visual aids in church programs, the selection and procurement of film and slides, the making of local church films, and the choice and operation of equipment. A helpful reading list, selected by authorities in the field of religious education, is included in the booklet. For further information write to the Educational Division, Bell & Howell, 7100 McCormick Road, Chicago 45, Ill.

* * *

An "Oscar of Industry" was awarded General Mills' technicolor "Operation '46," a visualized report produced for showing at regional stockholders' meetings. It was produced for General Mills by the Calvin Co., Kansas City.

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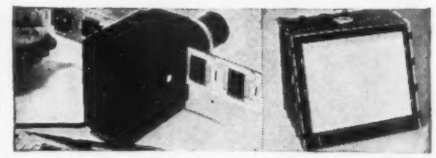

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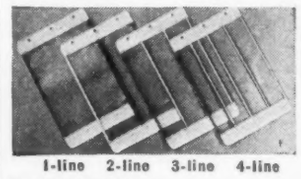

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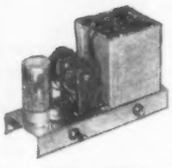

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This comparison, based on existing physiological information about the motion of the eye, was made today by Drs. Loyd A. Jones and George C. Higgins in reporting their investigation of photographic graininess in Kodak Research Laboratories.

The two scientists said they now believe that the appearance or nonappearance of graininess in a photograph is based primarily upon movement of the image over the eye's sensitive retinal receptors. This movement takes place during the eye's "fixation pauses" lasting no more than two or three seconds.

The Kodak researchers explained that it is well known that in examining an object the eye looks first at one area and then another. During the brief pauses when the different areas are examined, the eye appears motionless.

Actually, however, as other researchers have found, during these pauses the eye vibrates rapidly. The central fovea, where vision is sharpest, flicks rapidly over small fields of the object being viewed.

The effect of the eye's vibration during such a "fixation pause," Drs. Jones and Higgins point out, is much like a finger which feels little while resting on rough cloth but senses texture when moved over the surface.

Part of the Kodak research technique involves the use of observers who examine magnified images of developed photographic deposits to determine what constitutes "just perceptible" graininess.

From their investigations the two scientists now believe that a relatively small group of the eye's retinal receptors—some

THIS WAS PHOTOGRAPHY . . .

Woe to the unfortunate couple who begged the photographer to snap them on the beach back in the days of 1891, when bathing suits were a good deal more reticent than they are today, and when photography was a far more time consuming process. The mustachioed swain would clasp his be-ruffled sweetheart and hold her stiffly for what must have seemed to be an indeterminable length of time. Note the gay rake just behind the photographer who seems to be eyeing the model with more than just a careless glance.

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HOW FILMS are being used by companies today to improve their sales, employee relations, and production.

HOW photography is becoming more and more an INDISPENSABLE part of all phases of business and industrial operation.

HOW NEW DEVELOPMENTS in photography affect your work and increase YOUR OPPORTUNITIES.

ARTICLES ON LIGHTING, COLOR, DARKROOM WORK

Each month PHOTOGRAPHIC AGE presents the newest developments in all phases of photography. Our articles on lighting are constantly adding more complete knowledge for your photographic library, such as illuminating objects under glass (radio tubes, etc.), lighting for highly reflective surfaces, machine parts operating at high speed, etc. The color series, too, keeps you ahead in the field of high-quality color photography.

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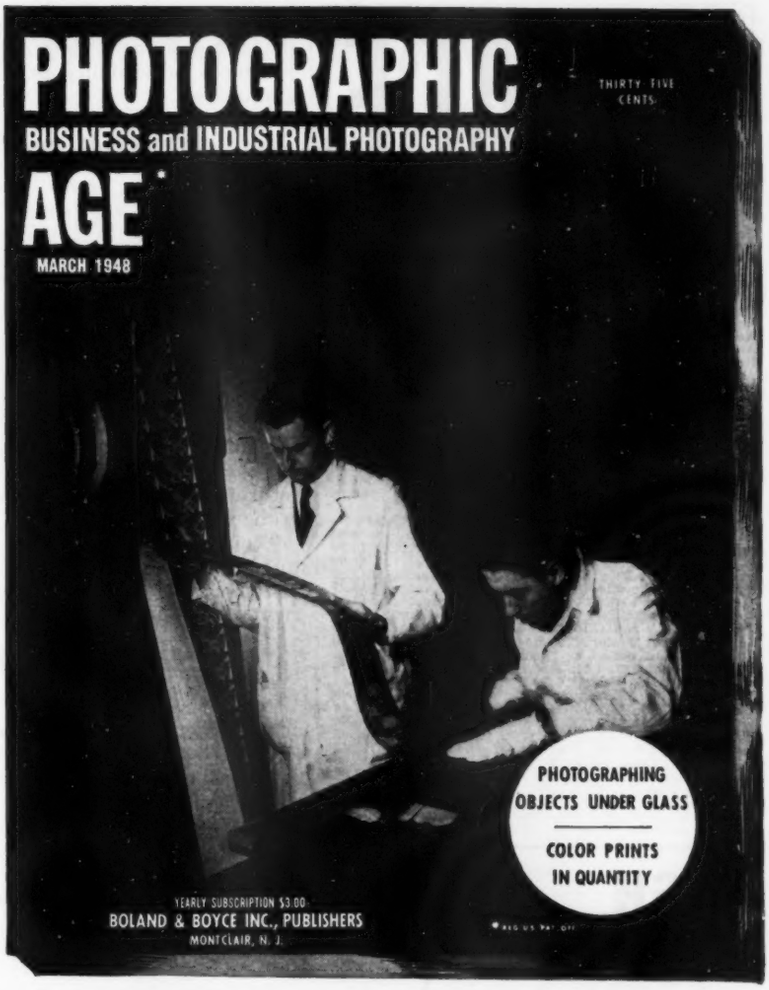

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1,500 cones clustered around the center of the fovea—largely determine the final judgment of visibility or invisibility of graininess.

Indian Giver

MATISSE, THE FAMED French artist, once posed for a series of photographs by Alfred Blumenfeld of New York photographic fame, and was so pleased with the cameraman's work that he invited him to take, from behind the shelf, a large folder containing some of Matisse's paintings and select one to keep for himself.

Blumenfeld went through the folder, examining each painting carefully, until he found the one he preferred. Then he went through the collection again and returned to his original choice. "Yes, this is the best," he told Matisse.

"You're right," the artist agreed, returning the selected painting to its folder and placing it back on the shelf. "You're right. It is the best."

Blow-ups?

ONE DAY I was setting up my camera on a corner across the street from the city market. An Italian street-sweeper came pushing his broom along the gutter. He stopped and, with a big smile, said, "Whatta ya doina boy? Make a da pitch?"

"Yes," I replied. "I'm making a picture."

"Dassa fine a stuffs. Ya know, I gotta da box ta make a da pitch."

"Fine," I answered. "Do you get some good pictures?"

"Si, somma time she's a damma gooda pitch. Somma time she's a no damma good."

"What do you do?" I asked. "Maybe I can help you."

"Don' know. I joosta poosha t'ing—she goes a boom. I poosh again—she goes a boom. Somma time she's a damma gooda pitch. Somma time she's a no damma good."

"Maybe you over-expose," I suggested.

"Over-explose," he cried, "thassa it, over-explose. Thassa whatta I tella Angela. Somma time I t'ink maybe I letta too much air in 'er."

Alex. M. Myers, San Francisco, California

Medicine

AN ORANGE COLORED DYE, first prepared as a sensitizer for photographic emulsions, then found to cure filiarisis in rats, is now being used with success on human beings in Puerto Rico. Known as compound 863, the dye is one which chemists term a cyanine.

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Ideas for Your Darkroom

(*Continued from page* 47)

down through to the cupboards or racks which you will want to construct beneath the bench.

Although the term "darkroom lighting" may sound paradoxical to some people, we photographers know that this aspect of darkroom remodeling and construction is important. The kind and type of darkroom illuminants used makes a great deal of difference to the photographer; it often means the difference between successful and unsuccessful darkroom operations, as well as having an obvious bearing upon comfort, convenience and efficiency.

From the standpoint of illumination, the best darkrooms possess a maximum of *safe* illumination. And the best light for a given darkroom use is, of course, that which provides the greatest assurance of safety with the utmost degree of visibility. You will note that the term, "a given darkroom use," was employed above. This is because there are many types of safelights, and the ones you install depend upon the sensitized materials with which they will be used.

In addition to choosing the correct types of safelights for your film processing and enlarging (to take two examples), their proper placement in the darkroom is a matter which should be thought out in advance of installation. So, then, in respect to fitting the new or remodeled darkroom with safelights, there are two factors to consider: one, the type lights we select; two, the placement of these lights.

It may be well to state at the outset that it is poor policy to resort to makeshift devices, such as making a lamp designed for other purposes double as a photographic light. Other types of lamps may give off light which will fog your film—and many negatives cannot be duplicated; once they're lost they are gone for good. That's the first step; when you are buying a safelight for your darkroom, buy a photographic safelight of proven worth.

There are two ways to tackle the safelight selection. You may have a small setup where it will work out well to have one safelamp with interchangeable filters to adapt it for various purposes. If you have a larger darkroom, you will probably want to purchase two safelights, one for film processing and one for printing purposes. Either or both of these lamps can be fitted with filters to suit them for almost any other use.

We all know that high-speed panchromatic films must be processed in total darkness. Therefore, we need not concern ourselves other hand, are wavelengths in not extremely the red part of the sensitive to the longer wavelengths in the red portion of the spectrum. For this reason, a relative-about them when lights. Orthochro-choosing our safematic films, on the ly deep red safelight which emits spectrum only can be employed with a fair amount of safety to assist in handling and processing such films.

Remember that most recommendations and working distances are based upon the assumption that a 10-watt lamp will be used in the safelight. Be sure to check the wattage of the lamp you use in your safelight, and also check the working distances. If you depart from the 10-watt lamp by using one of greater wattage, you should compensate by increasing the working distance, by inserting neutral density filters, or by directing the light so that it does not shine directly upon the work area.

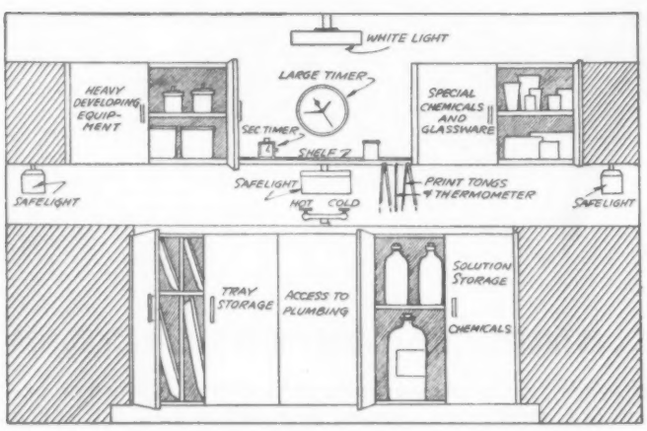
It has already been mentioned that no safelight should be used with high-speed pan films. While the slower pan films can be handled under certain types of illumination, the photographer should be aware that there actually is no light which is absolutely safe for these materials. Therefore, the choice of safelight for use with pan films is determined by the best compromise between visibility, film sensitivity, and safety. It is fortunate that the color to which panchromatic films are *least* sensitive is the color to which the human eye is the *most* sensitive. This color is green. If the safelight has sufficiently restricted transmission in the green portion of the spectrum, and no more than a 10-watt lamp is utilized in the light, it can be used with slower speed pan films with a good degree of safety.

SAFELIGHT TABLE, FILMS

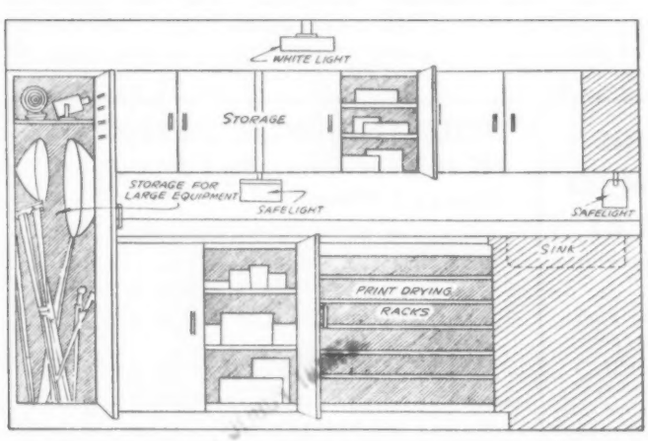
Film Type	Safelight
High-speed pan films Superpan Press, S. S. Pan, Super XX, etc.)	None
Regular pan films (Supreme, Plus X, Kryptar etc.)	A3,Series 3
Orthochromatic films (Plenachrome, Verichrome, etc.)	A7, Series 2

Regarding the selection of a safelight for use with photographic papers, it is primarily a matter of matching the quality of the illumination to the spectral region in which the paper displays no appreciable sensitivity. In this respect the choice of safelight for paper follows the same pattern as choosing one for film.

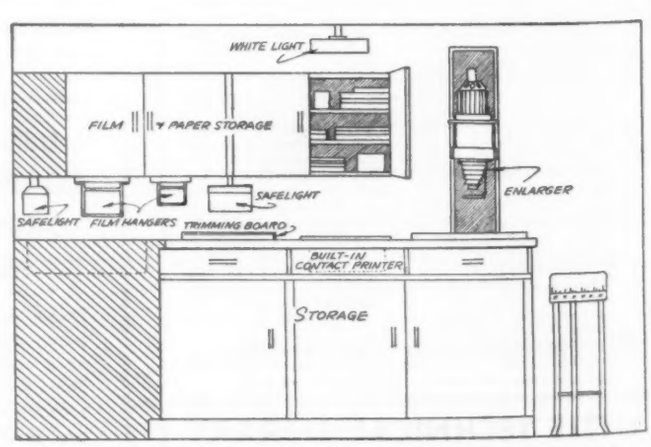
There are two general classifications of papers to consider when selecting safelights for printing use. There are the slower chloride (contact) printing pa-



The U-plan (shown from above on page 46) requires more room than other arrangements but provides good working space for the advanced amateur. Wet work area is along wall facing the door.



Left wall provides plenty of build-in storage facilities for large items of equipment as well as dry work area. Safelights of the right type are placed where required for each operation.



Right wall is used for enlarging and printing, with cabinets for paper above the table. Steps are saved by the straight-line layout; prints move along from enlarger or printer to the sink.

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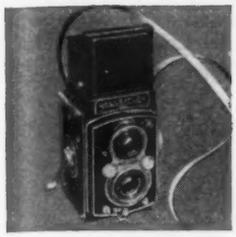

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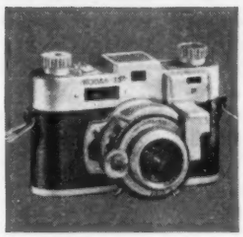

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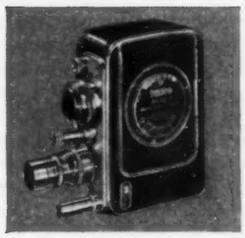

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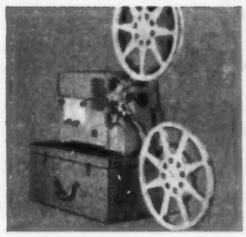

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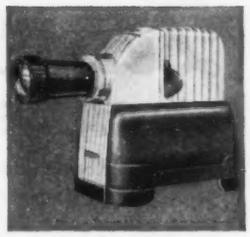

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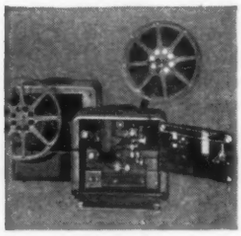

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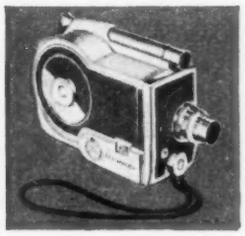

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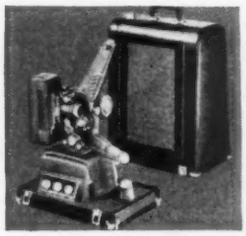

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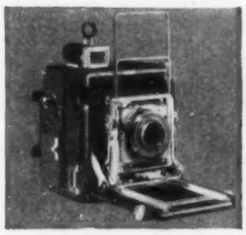

CROWN GRAPHICS

Pacemaker "45" (4x5) with: (1) Graflex Optar f:4.7 coated lens, Graphex. (X) Shutter . . . **$171.30.** (2) Kodak Ektar f:4.7 coated lens, Graphex (X) Shutter . . . **$176.94.** (3) Kodak Ektar f:4.7 coated lens, Supermatic (X) Shutter **$172.44**

Pacemaker "23" (2¼x3¼) with Kodak Ektar f:3.7 coated lens, Supermatic Shutter with built-in synchro . . **$209.65**

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SUPER IKONTA A

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IKONTA 35

35mm camera; picture size, 1 x 1½. Novar f:3.5 lens in Klio shutter. Speeds to 1/250. The same camera is available with Xenar f:2.8 lens in Compur Rapid shutter, speeds up to 1/500.

IKONTA B

2¼ x 2¼ model with Novar f:4.5 in Klio shutter. Speeds to 1/200 sec. Lock prevents double exposure. Also with Novar f:3.5 in Klio shutter, speeds to 1/250 sec.

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An ultra fine 2¼ x 2⅛ rangefinder-focusing camera with f:2.8 lens in Compur Rapid shutter. Speeds up to 1/400. Model BX has built-in exposure meter.

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Literature on request

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pers, and the bromide and chlorobromide (projection) printing papers. Since the contact papers are much slower (less sensitive) than the enlarging papers, it is possible to use a higher illumination level with them. Rather bright yellow or orange safelights are the usual sources; in fact, almost any light is satisfactory so long as all the blue, violet, and ultraviolet rays are absorbed.

For the faster enlarging papers a yellow-green safelight often is used. While most photographers prefer the greater visibility afforded by a yellow-green light, a rather bright red safelight also can be employed with projection papers.

SAFELIGHT TABLE, PAPERS

Paper Type	Permissable Safelight
Chloride (contact) papers (Convira, Cykon, Velox, Azo etc.)	A5, Series OO
Bromide & chloro-bromide papers Cykora, Brovira, Indiatone, Kodabromide, Opal, etc.	A6, Series OA

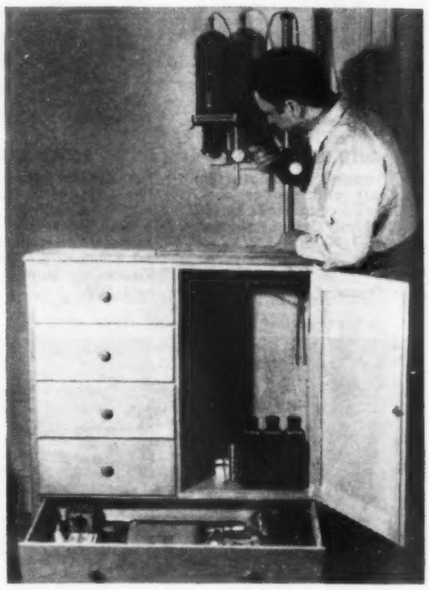
After picking out the safelights which you will require, you will want to decide where to put them in your new "retreat." Probably most of us will have darkrooms small enough so that all we will need in the way of illumination is *local* illumination—that is, lighting centered on a specific work area. Examples of local illumination are over the sink where films are processed, and over the developing tray where your prints first show themselves. For the larger darkrooms, safelights will be used for general illumination also. They supply soft, subdued light throughout the whole darkroom without concentration at any single area.

Carefully think out the location of your safelights before mounting them. Perhaps you plan to mount one over the darkroom sink for future use in inspecting wet negatives. Just how high you hang your safelight can mean the difference between having wash water run up your arm every time you hold a negative up to the light, and having, on the other hand, nice, dry sleeves. And again, don't forget that the height that works so well for your friend, Tom, may not do for you.

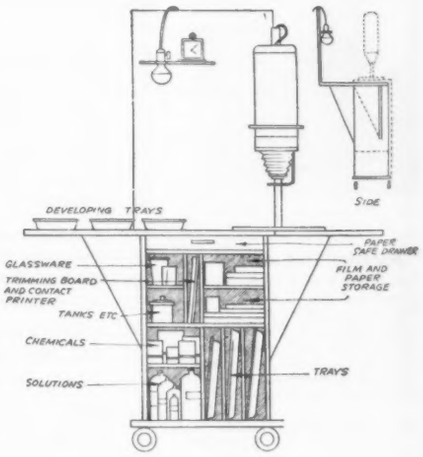
You should consider it absolutely necessary to conduct tests to determine the safety of your recently installed darkroom illumination. It is also advisable to conduct tests periodically to check on the safety of existing darkroom illumination. When such tests are incorporated into your darkroom routine, they often disclose a source of trouble in the form of light leaks, improper lamps, too close working distances, etc., before any damage is done. It is a simple matter to set up a safelight test which, though not infallible, is a very good guide to the safety you enjoy in your darkroom. For those who handle their films under safelights, the test may be performed as follows:

1. Take an unexposed sheet of film, handle it under the chosen safelight for the normal length of time at the usual working distance, then develop and fix it in the normal manner. If you do not use sheet film, remove the roll film from your camera leaving the last two or three frames unexposed. Clip two pieces from the trailing (unfastened) end of the film, and use *one* piece only for the procedure outlined above.

2. Take another sheet of unexposed film from the same box (or the other piece of unexposed roll film), handle and develop it only in total darkness, and fix it in the same way as the first film.



A portable unit is the answer to the problem of the apartment dweller who has no place for a permanent setup. It can be designed to hold all supplies and equipment, and can be stored in a closet and wheeled to kitchen or bath for use.



(NOTE: Both films may be processed at the same time to assure an accurate test.)

3. Compare your results. Your safelight illumination can be considered safe if no discernible fog can be found in the first piece of film when compared with the second.

Testing darkroom lighting for safety when using photographic papers follows a similar pattern. However, it is convenient when testing paper to use only one sheet. In this case, one-half of the sheet is utilized for the safelight test, and the other half is used for comparison purposes, as follows:

1. While all safelights are turned off,

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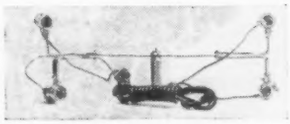

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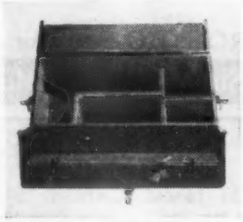

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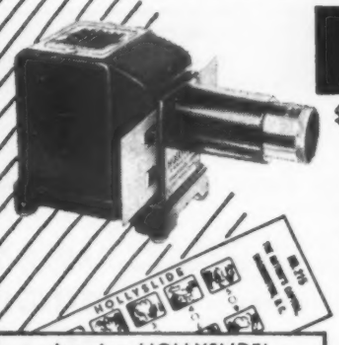

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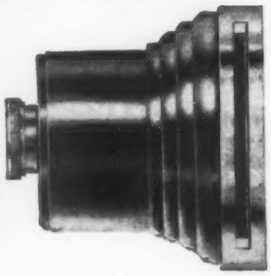

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★ Uses 3¼" x 4" slide glass with mask 2¼" x 2¼" or 2¼" x 3¼". Carroll Color Binders or other mounts.
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Owners of cameras using 120 or 620 Ansco Color or Eastman Ektachrome, this viewer was designed especially for you. See the PB Master Viewer at your dealer's or order from

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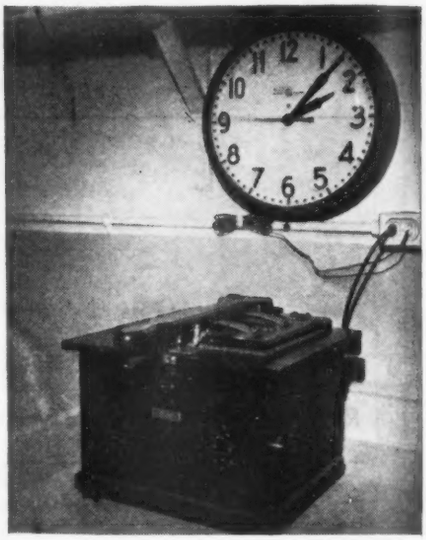
a sheet of paper is placed face up under the safelight at the distance customarily used. One-half of this sheet is covered with the piece of black interleaving paper.

2. The safelight is then turned on for the normal length of time occupied by handling and processing the paper under darkroom illumination, and allowed to shine on half the sheet only.

3. The safelight is turned off and the sheet which has been partially exposed is developed in the recommended developer, fixed, and washed.

4. Inspect the test sheet of paper; if no fog is discernible in the section of the paper exposed, the safelight may be deemed safe.



A large clock with sweep second hand is convenient when placed where it can be seen from anywhere in the printing area.

Of course, you will want to plan convenient outlets for your safelights, and for the other electrical photographic equipment you have or will soon have. This usually means double outlets at two or three places along the work area, with provision for overhead lighting in larger darkrooms.

Once the placement and construction of your darkroom has been completed, it is time to think about the equipment you will need. Although you probably have some of your equipment already (and more definitely slated for purchase when some loose change turns up), let's cover the equipment question right from the ground up.

We know now that convenient running water, suitable safelights, and sufficient electrical outlets can be considered a part of our basic equipment. Throughout the recommendations, it will be noted that certain equipment is listed as "necessary"; however, this does not mean that the ingenious photographer must have it. For example, he does not absolutely require three 4x5" trays, if he can persuade his wife to loan him her glass ovenware. Thus, he can use only two trays and his wife's favorite cake dish. In a like manner, he can use the sweep hand of the kitchen clock in place of a timer, etc. When checking over the equipment rec-

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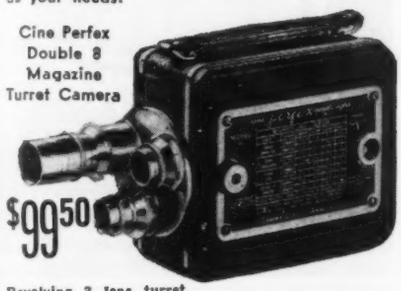

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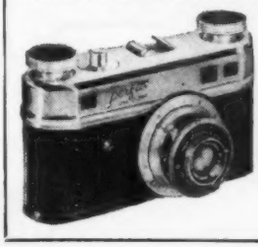

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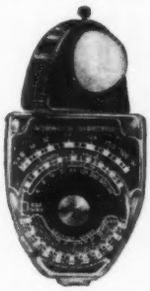

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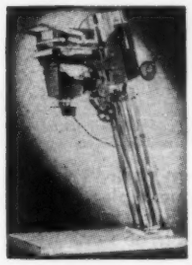

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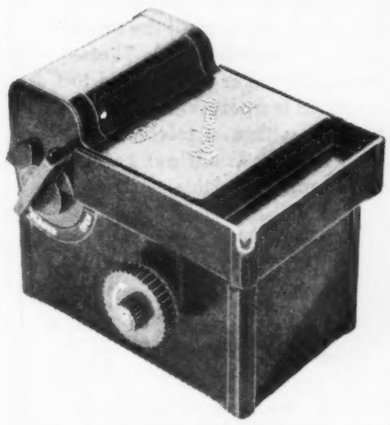

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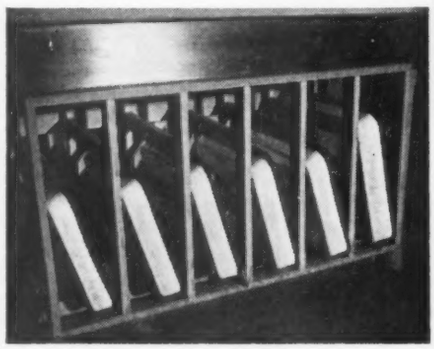
ommendations, don't let the length of the suggested lists scare you; you can do your own developing and printing with a few dollars worth of equipment, or you can spend more money for finer equipment and the many convenient "extras."

FILM PROCESSING EQUIPMENT, NECESSARY

Permanent	Expendable
Three trays, 4x5 or larger.	MQ tubes or other developer.
Measuring graduate and stirring rod.	Acetic Acid 28% (short-stop).
Thermometer (50 to 125 F).	Fixer (acid hypo).
Timer or clock.	
Film clips.	

Other conveniences not essential include an extra tray for wetting film before development, a daylight developing



An open rack beneath the sink makes a convenient place for storage of trays.

tank for roll, 35 mm, or sheet films, infrared lamps for faster film drying, and a chamois (or sponge) for wiping negatives.

CONTACT PRINTING EQUIPMENT, NECESSARY

Permanent	Expendable
Printing frame (or printer).	Contact (chloride) printing paper.
Photographic blotters (or ferrotype tins).	Paper developer.
	Fixer.

Additional equipment of value in contact printing includes a trimming board, for prints and negatives, a contact printer, print tongs, and a print roller.

It can easily be seen that the requirements for contact printing are apparently more modest than those for film developing. This is because very little extra equipment is needed for printing if you have materials necessary for processing; the trays, thermometers, and other items used for developing procedures are obviously usable in printing.

It may be helpful to make a few remarks about the equipment. As can be noted in the film processing table, either trays or daylight developing tanks can be used. This is, of course, a matter of personal preference. The important consideration is not the type of developing you plan to do, but the actual material from which the trays or tanks are constructed. They should be made of a photographically inert material such as stainless steel, Monel metal, suitable compositions or plastics, glass, or hard rubber.

Film clips should be of a rust-resisting material; stainless steel ones are preferred by many workers. The thermometer (if the glass tube is mounted) should also be inert to photographic solutions.

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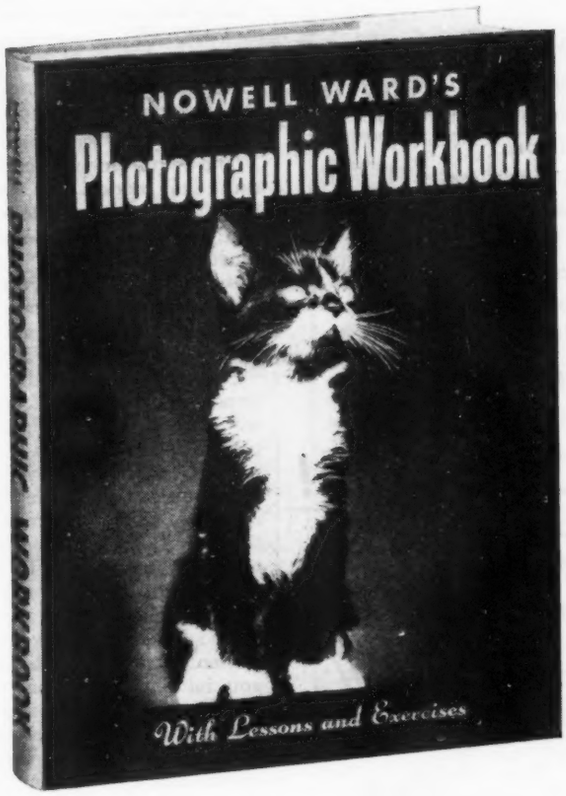

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ble points out, little extra equipment, save a printing frame, is needed for making your own prints at home. In addition, however, some means of drying the finished prints is required. If you plan to make only glossy prints (prints with a shiny surface), you will want to secure ferrotype tins and a print roller. If, on the other hand, you prefer the dull-surfaced prints, you should buy photographic blotters, a blotter roll, or build yourself a drying rack by stretching cheesecloth or crinoline over wooden frames.

ENLARGING EQUIPMENT, NECESSARY

Permanent	Expendable
Three trays, 8x10 or larger.	Enlarging (bromide) paper.
Enlarger.	Suitable developer.
Large blotters or ferrotype tins.	Fixer.

Other equipment that is convenient to have includes an enlarging easel, print tongs, a timer, and a chamois or viscose sponges.

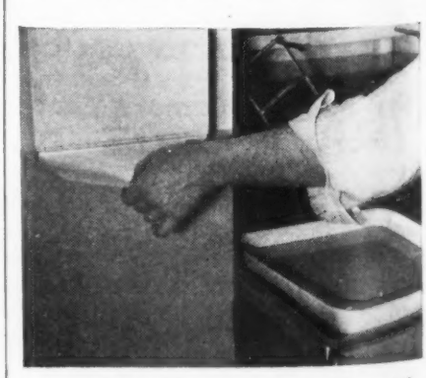
The requirements for enlarging are not quite so modest as those for contact printing. However, the extra equipment and materials needed are not prohibitive in cost. The one big item required for projection printing is the enlarger itself. The selection of an appropriate enlarger, like the selection of a camera, depends upon your purpose and your pocketbook.

Considered under the heading of optional equipment are many items that we may have heretofore thought indispensable—and indeed some are if the highest quality work is to be done.

As you can see from the accompanying diagrams, almost any available space can be utilized for darkroom use. Although you may not prefer to have a door in each end of the darkroom, still this often converts a relatively useless "alleyway" in the house into a very practical, permanent darkroom. Also, do not feel that you have to have a lot of room for a darkroom. Many photographers actually prefer the smaller darkrooms, since they save steps going from one point to another. You can do your own developing and printing in a space about 3x5 feet, if necessary.

At all costs, avoid makeshift electrical connections. Your peace of mind alone should make the extra cost well worth having an electrician install safe outlets and switches, to say nothing of your possible violation of local building codes.

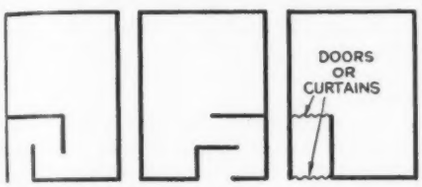
Place your equipment to avoid unnec-



Paper towels, in a dispenser mounted beside the sink, are at hand when needed.

essary steps. The prime consideration to keep in mind is the uninterrupted flow of the darkroom work. For those who are lucky enough to have a sink in the darkroom, the arrangement might start with a printer or enlarger situated about three or four feet away from the sink. With this setup the work can proceed in a common direction from exposure to the final wash. If you do not have a sink in the darkroom—if you must take the prints to the kitchen or bath for the final washing, it is handy to have this same sequence of equipment and trays progress toward the darkroom door. In this case, a tray of water should be placed between the hypo and the door to avoid dripping all over the place.

Getting right down to brass tacks,



A Light Trap enables you to enter and leave while work is in progress and aids ventilation. These are typical examples.

probably very few of us can spend as much as we'd like to on our darkrooms—but we *can* be workman-like in our construction, planning and finishing of the darkroom which will give us so much future pleasure. Also, we can have functional arrangements, and a high level of darkroom cleanliness to compensate for the expensive refinements which may be missing.

In the final analysis you are going to construct a darkroom designed to give *you* pleasure; some people seem to forget that important point. So, if you happen to be nine feet tall, don't pay any attention to what your well-meaning friends tell about *their* workbench and cupboard dimensions; instead, build them at heights best suited for yourself.

Half the fun of designing your own darkroom is in being able to provide a setup that is tailor-made to your own requirements. Shelves, cabinets, special racks to hold trays and ferrotype plates, and even some items of equipment like contact printers and print dryers, can be built in. The underlying idea always should be to make best possible use of the available space for the type of work you want to do in it.

The accompanying illustrations will suggest many little details that can be incorporated in different designs. It would be impossible to present one perfect plan to fit the needs of every photographer. Starting with these ideas, you can adapt them to your space and requirements, incorporating the new thoughts that have come to you as you have been reading. Whether it is simple and elementary or advanced and more complete, a well-planned darkroom will help you make better pictures and provide the setting for many hours of photographic pleasure.—

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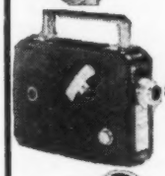

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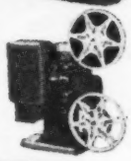

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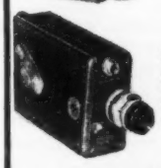

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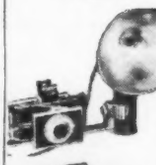

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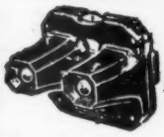

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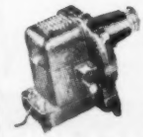

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(*Continued from page* 53)

thinner. When the two diapositives are bound together again in register, it is easy to soften or patch up edges with light pencil work, since this material has a texture similar to the finest ground-glass and takes pencil easily.

For bleaching, one can use Farmer's Reducer, the most suitable formula for which is:

STOCK SOLUTION A

	Avoirdupois	Metric
Potassium ferricyanide	1¼ oz.	37.5 grams
Water to make	16 oz.	500.0 cc

STOCK SOLUTION B

Sodium thiosulfate (Hypo)	16 oz.	480.0 grams
Water to make	64 oz.	2.0 liters

For use take: Stock Solution A, 1 ounce (30 cc), Stock Solution B, 4 ounces (120 cc), and water to make 32 ounces (1 liter). Add A to B, then add the water and pour the mixed solution at once over the diapositive to be reduced, which preferably should be contained in a white tray. Watch closely. When the diapositive has been reduced sufficiently, wash thoroughly before drying. Solutions A and B should not be combined until they are to be used. They will not keep long in combination.

Farmer's Reducer, however, is apt to leave a brownish ghost image, and I generally employ the bleach used for line drawings based on photographs. The formula for this is:

Thiocarbamide	240 grains	27.5 gms
Nitric acid	4 drams (fl.)	25.0 ccs
Water to make	20 oz.	1.0 liter

This is a clean working bleach, and since it works slowly it is easy to handle.

As regards the printing of diapositives, the beginner will find that a little practice is required before he obtains the type of diapositive best suited for reproduction. It must be remembered that the result is to be viewed and re-photographed by transmitted light and not by reflected light as is the case of a print on paper. The type of diapositive to be aimed at is one that is properly exposed and fully developed, and there should be a faint veiling over all highlights except those which are to be absolutely clear. I have found that a good guide is to make a rich print on paper which is fully developed in 1½ minutes and then to give the translucent material two to three times the exposure given the paper print, and develop it for two minutes.

An easy way to assure yourself that you are getting the best type of diapositives is to photograph a step-wedge. This is a card with ten to twelve strips varying from pure white at one end, through a succession of grays to pure black at the other end. From the negative obtained from this step wedge you can practice printing until all the tones are clearly defined. The resultant diapositive can then be used to copy as an experiment as to the best exposure and development to obtain a negative which will give a print containing all the gradations of the original step-wedge. When you have done this, and noted it in your technical notebook, it will serve as a basis for all future work.

As regards the combined diapositive: I have found that a simple way is to mount the finished and registered diapositives either on a light box or, more easily, on a window pane which preferably faces north, but at any rate, one which does not get the sun. On the other side of the window pane, behind the diapositive, you can place a matte white board inclined at 45 degrees to the windowpane. This reflects an evenly diffused light through the diapositive. The portion of the window not occupied by the diapositive should be well masked out with black paper. Normally the room on the photographer's side of the windowpane should be fairly dark so that the diapositive is copied by transmitted light only, but interesting effects and variations can be obtained by lighting the diapositives partly by transmitted light from behind it, and partly by light thrown on it from the front. Just as in copying from prints, it is important that any front light should be absolutely evenly balanced. There is a simple way of testing this. If you hold a pencil in the center of the print, standing out at right

A different background has beenadded to each of these pictures by the transparent positive process. A cloud scene which provided an effective background for the model was used for the first print, a transparency of soap bubbles on a pan of water for the second.

angles to the surface of the print, the shadows cast by the pencil—with two lamps, each at about 45 degrees—should be exactly equal in length, direction, and density.

There is practically no limit to the alterations, additions, and combinations which can be made by the methods indicated. With a little practice, they are well within the scope of any amateur photographer—even with modest equipment. Why not pick out some of your negatives, dream up a fantasy or two, and work it out by this diapositive method. You will find it is great fun and will completely mystify your friends.

For an example; there was an assignment where a picture was required of a

Clouds like castles in the air, and which seem to reflect the musing imagery of the child were called for, but proved difficult to achieve. C. Court Treatt tried airbrush work, several other techniques, but found that the diapositive process was the best.

girl "Sleeping on a Cloud." Figure 1 is a print of the sleeping girl. The eiderdown quilt was bleached out of a diapositive of the sleeping girl and the edges softened where necessary (Figure 2). Then the outline of her head was roughly traced on the groundglass of the camera, and I chased clouds until I found one which fitted nicely under her cheek. A diapositive was made from this cloud negative and the position to be occupied by the girl was bleached out (Figure 3).

It was then decided that since the corners looked bare, there should be added the faintest suggestion of lilies, which are symbolical of sleep. Later it was decided that some dark touches could be advantageously added, so butterflies were used for this purpose. Figure 4 shows a combination of these butterflies and lilies. Edges were then adjusted with pencil, a few necessary lines were brought out with pencil, a few highlights were flicked out with a razor-sharp retoucher's knife, and the three diapositives, bound in registration, were photographed to produce the single negative from which the final print was made, as shown in Figure 5.

"Fredericka—Design for a Fan," is a combination of nine negatives and some fifteen diapositives. This sounds alarmingly complicated, but actually was not

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so at all. This talented and charming dancer was first photographed against a black velvet background in a variety of poses. Four poses were selected which suited the design. Diapositives of these four shots were then cut out, leaving a quarter of an inch of black edge around each figure, and they were taped in the right position on the window. Several negatives were then made of flowering branches, and of butterflies, against black velvet—with the final design always in the back of my mind. A sufficient stock of diapositives of the branches were then

Originally, a blank sky made this a dull and uninteresting scene. The photographer added the tree branch by use of the diapositive process, so improved the print.

made and portions required were cut out and taped on the window in such a way as to carry out the desired design and rhythm of the composition. All the vacant spaces were then filled in, first with masking tape, and then blacked with India ink. It was found that practically no hand work had to be done on any portion of this multiple combination of diapositives. The re-photographing of the completed design was an easy job.

It will be found that these translucent materials are capable of considerable control. All forms of dodging can be utilized as in a paper print and the developed, finished diapositive can be worked on with pencil, ink, or paint, and highlights intensified with a retoucher's knife. The fact that certain of the material has an emulsion on both sides makes control all the easier. If, upon inspection, a diapositive is too dark to match the density of the diapositive with which it is to be combined, it can be reduced with Farmer's Reducer, as before mentioned. This formula of Farmer's has the property of brightening the diapositive and increasing the contrast. That is because it attacks the light densities more strongly than the heavier densities. Should all-over proportional reduction be required, with a lowering of contrast, Farmer's Reducer also may be used as a two-bath formula by treating the diapositive in the ferricyanide solution first and subsequently in the hypo solution. This method gives almost proportional reduction and corrects for overdevelopment.

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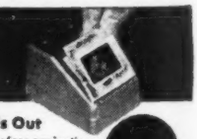

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Treat the diapositive in Solution A with uniform agitation for one to four minutes at 65-70°F (18-21°C), depending on the degree of reduction desired. Then immerse in Solution B for five minutes and wash thoroughly. The process may be repeated if more reduction is desired. For the reduction of general fog, one part of Solution A should be diluted with one part of water.

I recommend that where it is known that reduction, intensification, or other chemical methods are to be used, a spare and exactly similar diapositive should be made so that portions of the spare can be cut off and used as tests to ascertain the exact time of treatment and strength of solutions required to adjust the diapositive which will be used in the final composite.

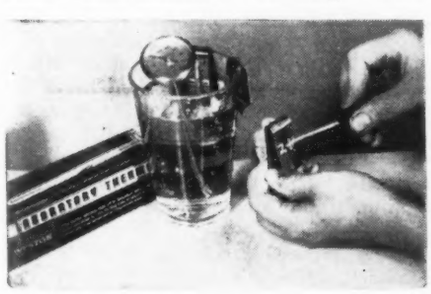
All this may sound very complicated, but actually it is not, and it enables you to produce pictures which would otherwise be impossible to do, and yet, with due care, a purely photographic quality can be retained.

This is an age when painting has gone beyond the mere factual representation of people and objects, and the public accepts work in which the artist has shown courage, imagination, and originality. The photographer, too, can give his imagination free rein. The methods herein outlined are capable of endless permutations, require no complicated equipment, and are well within the capabilities of the average amateur photographer.—

CHECK DARKROOM THERMOMETERS

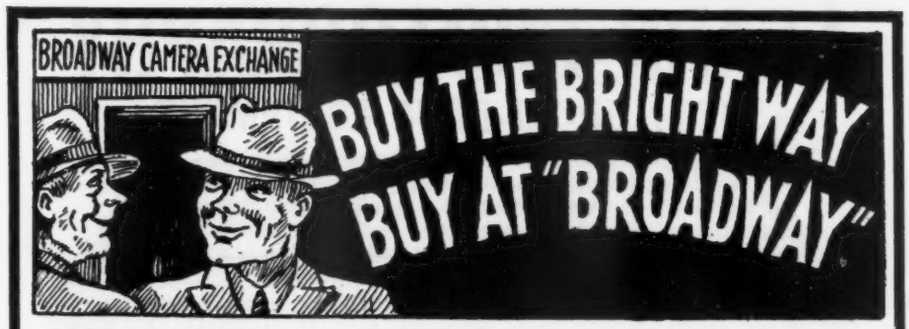
The average darkroom contains several inexpensive thermometers, whose accuracies usually vary a few degrees. These thermometers may be used with greater accuracy by calibrating them with a laboratory model and applying a correction factor.

A Weston Laboratory model was used as shown in a glass of water with all other thermometers. Readings were



Darkroom thermometers are calibrated by painting metal parts with white enamel.

compared and corrections were marked with white enamel on the metal side of the cheaper thermometer. Similar markings were made on the case of tubular thermometers. The one being marked read two degrees high, and was labeled "2 plus."—*H. Leeper, Canton, Ohio.*



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Letter from London

BAD NEWS travels fast usually and no doubt you'll already have heard that our Chancellor of the Exchequer's Christmas present to Britain's photographers was an increase in purchase tax from 33⅓% to 50%. This means that the price of a 120 size (2¼x3¼) panchromatic film went to 2s.9d. instead of 2s.5d. And to think that a few years back the price was only 1s.6d.! Bromide paper and other accessories also went up accordingly and it is just this sort of price increase on regularly needed items which annoys the majority of workers. Tax on equipment doesn't worry you so much because it's only needed once in a while, but a regular necessity always seems quite a different proposition.

THE QUESTION of depicting character in portrait work has been figuring a lot in the month's exhibitions and discussions. To begin with, Adolf Morath of Liverpool had a one-man show at the London Camera Club and opened not a few people's eyes with the quality of his work.

About the same time, Harold House, lecturing at an R. P. S. meeting on "Character in Portraiture," was dealing a great deal with the part played by the hands in portraying character and emotion. As an exercise to himself he had once posed himself for a self-portrait using definite positioning of his hands to portray "Fear," "Old Age," and "Anger." He told me afterwards that he took them because he was puzzled as to why so many people had trouble over knowing how to place their hands naturally. He choise these three subjects because he thought they were not easy ones to express—and found no difficulty at all in the exercise.

A good deal of private discussion later centered round this exercise and from a few comments I have heard since, quite a number are "sitting" to try it out for themselves.

The question of character in portraiture raises another interesting point too. A few days ago several of us were looking at a book, published last year, of portrait studies taken by Mathew B. Brady in the 1850's on the old Daguerrotype and wet-plate systems. Despite the ferocious head clamp and the staring nature of the eyes, the real character of the sitter was quite apparent. And here we are, a hundred years later, still trying to do the same thing. Admittedly we've made a detour via the path of "glamour" portraits, but over here now, there is a definite trend towards portraying real character.

Along somewhat similar lines, R. H. Bomback, (Pathé's technical adviser) and I were looking at a collection of Wm. H. Jackson's work. The first man to photograph the "wild and woolly West" knew as much about landscape photography in 1860 as we do now. Apart from some technical improvement in the quality of apparatus, film and plates, the fundamental necessities of a good picture are still the same.

I've come to the conclusion that it

might not be a bad idea if we all made a point of studying our pioneers—they couldn't afford to make the mistakes to which the ready facility of modern apparatus makes us all too prone.

WITH THE INTRODUCTION of the "Photo-finish" at horse racing tracks over here, considerable interest was aroused in high-speed processing techniques and great efforts have been made by manufacturers to cut down the time necessary to produce the print. One communication from Ilford Ltd. shows that with the use of experimental emulsions, hardened specially during manufacture, the over-all time for processing could be reduced to 10 seconds made up by:

Developing	2 seconds
Stop bath	1 second
Fixing	2 seconds
Rinse	1 second
Drying	4 seconds

Developing temperature was 130 F and it looks as though a more general use of pre-hardened emulsions can be warranted to allow fuller advantage to be taken of this high-speed technique.

I. C. I. Plastics, following hot on the heels of the Polaroid Corporation of America, are now offering two materials, poly methyl methacrylate and poly styrene, to replace crown and flint glass. Both materials have already been used in an f 0.8 Schmidt optical system intended for use in television projection equipment.

SO GREAT has been the influx of new members into the Royal Photographic Society during the past few years, that the Articles of Association are now outdated. The maximum membership figure as quoted in the original regulations was 5,000 and it now appears that the Society has over 6,000 members on its books. In view of the growing interest of photographers all over the country in the welfare of photography as a whole, an extraordinary general meeting of the "Royal" has been called to increase possible membership to 25,000 and there seems little likelihood that there will be any objection to the resolution.

If any proof were ever needed of the keenness shown by amateurs generally, we have surely had it just recently. A Manchester firm of fabric manufacturers recently ran a competition for pictures of "Charming Children." Some 23,000 entries were submitted by over 9,000 amateurs for 10 prizes of £25 each. Yet publicity for the competition was restricted to small display stands in departmental stores and only once was it advertised in one weekly paper. Our photographers apparently have their eyes wide open.

In Shooting Pictures close to moving objects shutter speeds as high as 1/200 second will not stop action (other than head on shots) unless the photographer follows his subject in the finder during the time of exposure by "panning" the camera with the movement. Be careful to avoid jarring the camera.

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672 PRIZES AND AWARDS

RULES OF CONTEST

(1) Contest is open to all persons, except employees of POPULAR PHOTOGRAPHY, Ziff-Davis Publishing Company, and their families. Contest opens February 15 and closes October 1, 1948. No entry fee is required.

(2) ALL pictures entered in the contest will be eligible for the grand prizes.

In addition, each picture submitted in time will be eligible for a monthly award, based on the date of its receipt by the Contest Editor.

All entries received on or before midnight April 1, 1948 will be eligible for the First Monthly Awards to be announced in the August, 1948 issue.

Entries received between April 2 and midnight May 1, 1948 will be eligible for the Second Monthly Awards to be announced in the September, 1948 issue.

Entries received between May 2, 1948 and midnight June 1, 1948 will be eligible for the Third Monthly Awards to be announced in the October, 1948 issue.

Entries received between June 2 and midnight July 1, 1948 will be eligible for the Fourth Monthly Awards to be announced in the November, 1948 issue.

All entries eligible for the monthly awards, whether winners or not, will automatically be entered in the competition for the Final Prize Awards. Entries received after July 1, 1948 will be too late for eligibility in the competition for the last of the monthly awards, but will be entered directly in the Final Prize Competition provided they are received not later than the closing deadline, October 1, 1948.

(3) Any number of black-and-white prints, color prints, or color transparencies may be submitted. Prints of any size may be submitted although 5" by 7" or larger are preferred. There are no restrictions as to subject matter.

(4) Tinted black-and-white prints are not eligible, nor are pictures which have been published by any other photographic magazine. Publication in any other form does not make prints or color transparencies ineligible.

(5) Each print or transparency must have secured to it a filled-in entry blank as provided here, or facsimile thereof. Please typewrite or print the information requested. Additional entry blanks can be obtained from photo dealers and finishers or directly from the Contest Editor of POPULAR PHOTOGRAPHY (if request is accompanied by self-addressed stamped envelope).

(6) Pictures will be returned only if a self-addressed and stamped envelope, or label and postage, are contained in the same package. Do not send postage in separate letter. The Contest Editor cannot entertain correspondence of any kind regarding entries.

(7) Prize-winning prints and transparencies, including all reproduction and promotional rights, become the exclusive property of POPULAR PHOTOGRAPHY.

(8) Address all entries to Contest Editor, POPULAR PHOTOGRAPHY, 185 N. Wabash Avenue, Chicago 1, Illinois. Final entries must be received not later than midnight, October 1, 1948. Grand prizes will be announced in the March, 1949 issue of POPULAR PHOTOGRAPHY.

(9) Judges in the contest will be the editors of POPULAR PHOTOGRAPHY. Their decision will be final. In the event of a tie, duplicate prizes will be awarded.

(10) While exercising the utmost care in handling prints, POPULAR PHOTOGRAPHY assumes no responsibility for loss or damage of contest entries.

(11) All entrants who win prizes will be required to furnish original negatives before awards are given. All prize-winning negatives become the exclusive property of POPULAR PHOTOGRAPHY.

FINAL CLOSING DATE: OCTOBER 1, 1948

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Picture Title.....

Where Made.....

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Exposure: Lens stop.....Shutter speed.....

Film Used.....Filter.....

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Development of Movie Titles

(*Continued from page* 119)

diaphragm opening. You see, the density of the titles depends so much on your own processing, that the film speeds furnished by the manufacturer are not necessarily the best ones.

If you use 8 mm film, you must invert the film after photographing half the titles, in order not to waste film. Do this as follows. Obtain an extra (third) camera spool. Photograph more than half the titles you intend to photograph. Then, under a safelight, open the camera, cut the film above the gate, and place the unexposed film in a light tight box ready for the next session. Place that film that is half exposed on the upper spindle of the camera, the empty (third) spool on the lower spindle, and thread the film through the camera as usual. A little practice in the dark with a strip of discarded film will enable you to do this easily. Close the camera, and photograph the remaining titles. The halves will be slit apart during the processing (see below).

A word about the kind of film to be used might be useful. Any sort of black-and-white film works all right. Orthochromatic, semi-ortho, and color blind films are preferred, since they are cheapest, and can be manipulated under a red safelight. Positive film is excellent, giving highest contrasts, but it is not readily available in the 8 mm size. Panchromatic films work all right, but must be handled in total darkness, are usually more expensive, and offer no advantages for this particular purpose.

The third step in the procedure is the actual processing of the film. For processing plain black-and-white titles, four trays are required as shown. Fill one with cold water, one with a suitable developer, one with a short stop solution, and one with a fixing bath. After exposing the film as described above, strip off the exposed film (using a suitable safelight), and run the film into the water, allowing it to soak for one minute. Poke the film under the surface of the water frequently to allow uniform softening of the emulsion. Then grasp the tangled mass of film and transfer it to the developer; allow it to develop for the required time at the correct temperature, depending on the developer you are using. Poke the film under the surface frequently, as illustrated. If the strip of film is short, say less than three feet in length, it may be "see-sawed" through the developer with success as shown. After development, grasp the mass of film and transfer it to the short-stop solution. Agitate gently for one minute or longer, then transfer to the fixing bath. Fix for twice the time required to clear, which should not be longer than ten minutes, then wash in running water for 10 to 20 minutes. Strip off the excess water with a chamois skin and, if you are going to tint or tone the individual titles, slit the film (if 8 mm) and return the film to a tray of water. If you are not going to tint or tone, hang the strips to dry. Drying should be hastened with some heat and by circulating air, and should be done in a place free of dust. After drying, the film is spliced into its proper place and the procedure is completed.

As a general rule, film strips up to about three feet can be processed easily. Longer pieces also may be processed in trays, but the danger of scratches is increased, due to the increasing unwieldiness of the film. I frequently process the full twenty-five foot roll of 8 mm film with success, but I don't recommend the procedure for a novice or for one who is overly economical with his developing solutions!

A few words about developers are necessary at this point.

For plain black-and-white titles, a high-contrast developer will prove best. D-8 (see the tables at the end of the article) gives maximum contrast, but must be diluted for use and then discarded; it also contains sodium hydroxide and is thus caustic to the hands. I prefer this developer and take all precautions to keep my hands out of the solution as much as

HIGH CONTRAST DEVELOPERS

D-8. For Maximum Contrast

Water	96 ounces	750 cc.
Sodium, sulfite, desiccated	12 ounces	90 Gms.
Hydroquinone	6 ounces	45 Gms.
Sodium hydroxide	5 ounces	37.5 Gms.
Potassium bromide	4 ounces	30 Gms.
Water to make	1 gallon	1 liter

For use take 2 parts of the above stock solution and 1 part water. Develop about 2 minutes at 65° F. (18° C.) Avoid prolonged contact with the skin.

D-11. Contrast Developer

Water	16 ounces	500 cc.
Elon	15 grains	1 Gm.
Sodium sulfite, desiccated	2.5 ounces	75 Gms.
Hydroquinone	130 grains	9 Gms.
Sodium carbonate, desiccated	365 grains	25 Gms.
Potassium bromide	73 grains	5 Gms.
Water to make	32 ounces	1 liter

Use repeatedly without dilution. Develop about 4 minutes at 68° F. (18° C.).
NORMAL CONTRAST DEVELOPERS. Use D-76, DK-20 or Microdol, or equivalent. Formulae available from the manufacturers, or generally available in prepared packages.

SHORT STOP SOLUTIONS

Short stop

Water	32 ounces	1 liter
Acetic acid, 28%	1½ fluid oz.	48 cc.

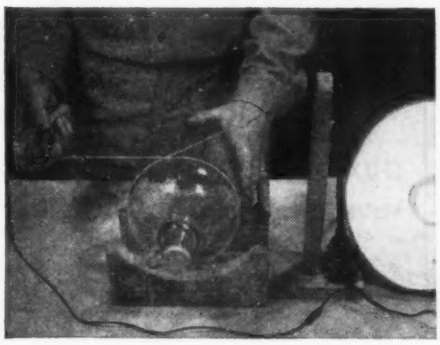
Short-stop hardener

Potassium chrome alum	135 grains	18 Gms.
Sodium bisulfite	135 grains	18 Gms.
Water to make	16 ounces	1 liter

FIXING BATHS. Any standard hypo fixing bath or fixing-hardening bath serves satisfactorily.

possible. D-11 gives good contrasts, is used repeatedly at full strength, and is not caustic. Neither of these two developers are noted for finegrain action, but strangely, fine grain is not important here: in the region of the white letters, no silver is deposited; in the region of the black background, the mass of silver is opaque; in other words, the graininess simply does not show!

For scenic titles, a finegrain developer must be used. D-76, DK-20, Microdol, and others have been used by me; any other standard finegrain developer should work perfectly. For scenic titles it is convenient to use a tank for development, since the developing times are relatively long. The developing tank can be a *bona fide* film tank, or one of several excellent substitutes. I have used four tanks made from half gallon bottles; the tops were



A scratch is made around the bottle with a file, the wire is placed in the scratch and held by tightening the wire with the handle (left). Then plug is inserted into 110-volt line. When wire becomes hot, it will crack bottle along the scratch. Wire should glow a dull red. Bottle is supported during the operation by the cradle.

cut off with a hot wire, and the edges were smoothed with sandpaper.

The tops may be cut off glass bottles of any size with the apparatus shown in the diagram and illustrations.

The apparatus consists of an electrical circuit employing a piece of 18 gauge Nichrome wire in series with an ordinary outlet. The Nichrome wire is placed around the bottle, and when a current passes through it, it gets hot enough to crack the bottle. The outlet serves to control the temperature of the wire.

To use the apparatus, proceed as follows: First, attach a No. 2 flood bulb to the outlet. Then turn on the 110-volt current and observe the wire; it should glow a very dull red. If it does not get hot enough, plug an additional No. 2 flood into the outlet. If, on the other hand, it glows a bright red, remove the No. 2 flood and replace it with a No. 1 flood. Thus, by adjusting the wattage attached to the outlet, you can control the temperature of the wire. Second, make a deep scratch around the bottle where you desire to cut; use a fine-toothed file to do this. Third, place the Nichrome Wire in the scratch, and hold it there by pulling gently on the handle. Fourth, turn on the 110-volt current; the wire will heat and should snap the bottle off at the scratch. Don't worry if the wire

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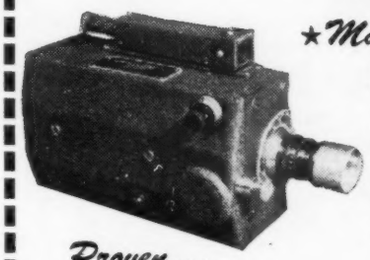

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does not glow where it touches the bottle. If the top doesn't snap off after about a minute, turn the current off, wait one minute, then turn it on again.

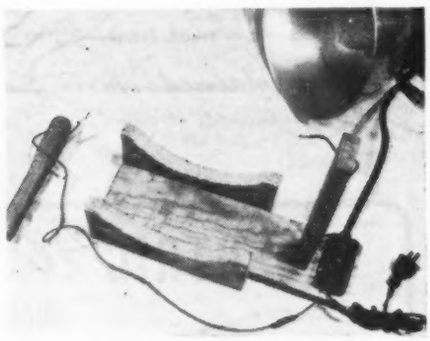
By all means observe the following precautions:

1. Do not touch the bare wire at any time. It may be hot; or worse, the current may be on, and you'll get a severe electrical shock.

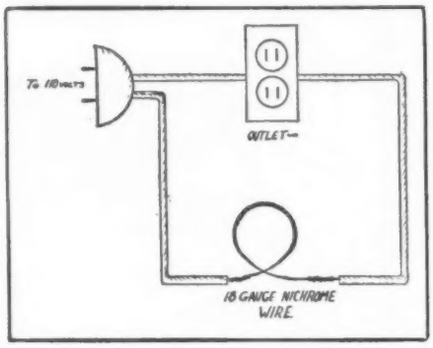
2. Do not allow the bare wire to touch any conductor at any time the current is on or is plugged into a 110-volt circuit. There is danger of fire, shorts, etc.

3. Never leave this apparatus plugged into a 110-volt circuit when not in use. This apparatus is efficient for cutting bottles, but is dangerous if not used carefully.

Actually only one such half-gallon tank is required, since all processing but the



Hot wire cutter is hooked up as shown in diagram below. Current passes to the double outlet, then through a resistance such as a No. 2 floodlamp, back to the outlet, and then to a length of No. 28 Nichrome wire which heats when circuit is closed. Heat of the wire is varied by selecting lamps of different sizes. Just one word of caution: to be safe, do not touch the bare Nichrome wire, and do not let it come in contact with anything that is a good conductor of electricity.



developing can be done easily in trays as mentioned. Agitation with these glass tanks is done by poking the film around in the solution, or by means of a circular swirling motion of the tank. This tank has to be used under the proper safelight, or, preferably, in total darkness, except for momentary examination of the film. In addition to the real film tank, a metal lard bucket with a tight fitting lid works well if you tape the lid on, and if you wash it out carefully and dry it thoroughly after use. These tanks can be used in ordinary room light, after the film

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has been put into them. And don't despise the lowly quart canning jar, and even the glass jar in which you buy a number of your developing powders; needless to say, they are transparent, and must be used under the proper safelight.

The use of any of these tanks is similar to using a tray. The developer is poured in, brought to the correct temperature, and the film is immersed directly into the solution. Gentle agitation is required throughout development. After developing, the film is lifted out of the developer, transferred to the tray containing the short stop, and treated as described previously.

Three precautions attend the use of finegrain developers. First, certain finegrain developers require some increase in exposure. Second, the best titles must have a lot of contrast, snap, and brilliance; this can be achieved by developing about twice the recommended time. These two ends can be achieved by making a test strip and projecting it, adjusting the exposure and the developing time according to the results. And the third precaution to be taken is to use only fresh solutions; certain fine-grain solutions, when not fresh, tend to precipitate a uniform deposit of silver in the emulsion, reducing contrast and brilliance.

Just *be gentle*. Avoid violent agitation, and scratches will be non-existent, yet you will get uniform development.

The fourth, and final, step in the procedure may be used or omitted as desired. It deals with tinting and toning the finished title. Titles tinted or toned a variety of colors will add spice to your movies, and actually become a necessity when the remainder of the movie is in color.

Both tinting and toning should be done before drying the film. Dried film should be soaked in water for ten minutes before being tinted or toned.

The procedure is to immerse the film in the tinting solution until the desired color density is attained. Tinting solutions are made by various commercial firms. I have used Mansfield's Fototints with nice results; other tinting solutions undoubtedly work well. A strong solution of New Coccine gives a very nice orange-to-scarlet color, depending on the depth of tinting. After tinting, squeegee off the excess solution and dry rapidly. Tinted titles produce colored letters on a black background.

Toning also is effective, giving white letters against a colored background. Combined tinting and toning offers a great field for experimentation, and unusual and lovely results should be obtained. It is suggested that you try it.

Thus, folks, the procedure for processing your own movie titles to a negative, is not so difficult, nor so impractical, is it! You process your own still negatives, don't you? And, similarly, you can process your movie titles! You will find, as I have found, that you get swell titles, you can add a nice variety to them, that you can get 'em done quick, and that you're relieved of a fear, fear that you've forgotten a title, or that your titles and film won't come out right. Certainly relieves a guy's mind, doesn't it?

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Foresight in Filming

(*Continued from page* 117)

the home movie show, putting on the coffee pot, sister getting ready for her date, or Father asleep in his favorite chair.

Depending upon individual requirements and situations, the ideas are endless, and just a little imagination is required to make an out-of-the-ordinary family film in which even outsiders will be interested.
cigarette.

Often what seems the most commonplace can offer much in filming opportunities. The subject of Hobbies, for example, could be worked into interesting film fare. Members of the family, relatives, and friends might have interesting hobbies to be filmed, and one could even go outside the home for some material. A friend may be the home-workshop type and his activities—building furniture, cabinets, and the like—could furnish footage for the reel. This could go for metal and plastics work, wood burning, ship and model building. Pets could come in as a hobby from dog kennels to raising canaries. Maybe a fisherman friend ties his own fishing flies and this could furnish at least two or three minutes of film footage for your screening. Worked out in color from start to finish, the making of a colorful artificial fly would surely be out of the ordinary.

Home aquariums of tropical fish are also good subjects and could be contrasted, or brought in with shots of exhibits in public aquariums. Filming in public aquariums might at first seem impossible for the amateur, but it can be done when the sun is high and shining down into some of the tanks. Fast panchromatic film and a shutter opening of *f*/2.5 has done it for me.

The amateur photo fan also can furnish material for a hobby reel. If he is a table-top enthusiast, the planning and preparation of a photo table top scene can be filmed to show how the final results were obtained.

Most amateurs have taken occasional sunset movies at some time or another, but how about a reel of only sunsets and interesting cloud formations taken at various times and under different conditions? Some shots can be taken in single exposure, about one every second to seemingly speed up the action of the sunset and clouds. Even with cameras not equipped with a single exposure device it can be done by flicking the release button for a frame or two at a time. The resultant colorful cloud formations scudding across the movie screen, and changing color all the while, will be well worth the little time and patience it may take.

In relation to the above a short subject could be entitled "The Storm," or "A Rainy Day." It could be made at home and also would fit in well on a fishing trip for example. A suggested opening shot for "A Rainy Day" is a figure silhouetted against a window looking out. Rain spots on the glass would add to the scene. The sequence might follow:

1. Storm clouds.
2. Rain on water or in a puddle.
3. Overflowing gutters or dripping eaves.
4. Silhouette of a figure at a window or doorway.
5. Storm clouds.
6. Hands drumming on a table.
7. Feet tapping floor.
8. Figure in semi-darkness lighting a
9. Storm clouds, puddles, dripping eaves.
10. Hand crushing out a cigarette.

All these suggested shots and many more the movie maker might think appropriate could be worked up and repeated in short scenes to show how a rainy day might affect one's plans. The sequence might be ended with the breaking up of the storm and into fair skies or a sunset, and so on.

Home aquariums of tropical fish are good subjects. Shots of a public aquarium will give you variety and comparison.

The storm sequence could include bending tree tops, dark scudding clouds, papers or leaves blowing about, a sparrow huddled on a window sill, people bucking the wind or scurrying for cover, high waves on a lake, and other symbolic shots.

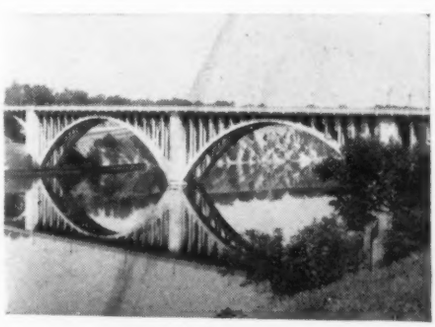
Another subject close to everybody is food. With a good cook around the house furnishing a little cooperation in cooking up fancy or unusual dishes, the film fare is almost unlimited. Even the common dish of ham and eggs seen in a color close-up on the screen, is mouth-watering and will cause your movie audience to cry for refreshments! The basis for a film like this, of course, is in the action of the preparation of the various foods from the start, to the eating. The idea might be worked into the usual holiday doings such as Christmas or Thanksgiving. From the story of how an icebox cake is made, to the preparation of some unusual foreign dish, the material is sure to prove an out-of-the-ordinary one for the home movie maker.

Many amateurs like to work in extreme close-ups and no doubt many have filmed their share of flower and insect close-ups. Another suggestion for playing around with extreme close-up work using accessory lenses, extension tubes, and other close-up means, is to make a film of ultra close-ups of more or less familiar activities and objects around the house. The idea is to film the subjects in extreme close-up by varying the filming angle, lighting, and so forth, in such a manner so that it is not readily recog-

nized. Parts of a watch mechanism, sparks from a "dry" cigarette lighter, bubbles formed by boiling starch, a hand pencil sharpener in action, the fast action of a sewing machine needle, the end of a drill coming through a piece of wood, are but a few of a long list of suitable subjects. Close-ups (lasting a few seconds) of each subject can be filmed, followed by an identifying shot of the action or subject. A guessing game film can be made in this manner that might prove to be fun at least to the kids in the audience.

Thinking it over, the movie maker who likes to film out-of-door subjects will have many specialized ideas come to mind. Perhaps many have read about or heard of other amateurs who have adapted poems and songs in their movie efforts. The song "Trees," no doubt, has been followed in sequences of a sort by many because of the simplicity of the subject. Some may recall seeing a color picture article not long ago in a national magazine illustrating "America, the Beautiful." A careful reading of the words will soon prove that this would be perfect for a home movie.

Just a single example and suggestion along these lines is a film on "Water." More or less scenic in nature, it could be filmed from a glass of ice water with the moisture condensed on the glass filmed in close-up, down through all the stages depicting water. Springs, wells, fountains, brooklets, streams, little and big rivers, lakes, and finally, the ocean, could be worked into a continuity. Variations from the scenic could be carried out in the form of activities along water such as water sports, the old swimming hole, children fishing, ships, bridges and the like. Contrast between the seasons on water might also be filmed bringing



Bridges I have crossed is an example of the unending subjects one can film; for instance, the ways of water travel.

winter with its snow and ice into the film. Everything from bathing beauties to fancy ice skating—it all pertains to water in some way.

It would take planning to carry out a continuity of sorts but one advantage of a film like this is that it could be added to from time to time when opportunity afforded. Methods of water travel and water sports are two suggestions for a continuity theme. Another might be "Bridges I Have Crossed" or some such title.

In trick movies, perhaps most amateurs have limited their efforts to an occasional "backwards" shot of cars moving back-

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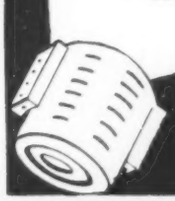

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wards, or a golf ball jumping out of the hole—by holding the camera upside down while filming and later reversing the strip of film end for end in splicing into the reel. Many have used slow motion and fast action also.

A full reel of out-of-the-ordinary home movies can be made by utilizing two simple basic tricks besides reverse motion. These are stop-motion and single speed action. The theme of the reel can be on "Magic." Of course if a member of the family or a friend is a "magician" with all his gadgets and equipment, and is adept at sleight-of-hand too, this is all well and good, and a film of magic would be easy to make by straight movie filming of all the different tricks. However, a friend can be chosen as the magician and a film built around him and others very easily by using these simple tricks.

In a film like this, without using matte boxes, masks, double exposures and what not, the main trick is the use of stop-motion. To illustrate this simply—the magician wants a smoke. He reaches out in the air and a cigarette appears in his fingers; he reaches again and a lighted match appears. This is done by filming the action up to the point where the cigarette or match is to appear. The camera is stopped abruptly and the cigarette placed in his fingers by the filmer or some one else outside of the scene and filming continued of the rest of the action. The actor, of course, must not move while the camera is stopped so that the action proceeds smoothly when it is started again. It goes without saying that the camera must be used on a rock steady support.

The reverse trick can be used to cause a glass of milk to return to its bottle, or a book or object thrown on the floor to jump back to the hand and so on with all kinds of variations. With 8 mm this reverse trick is "tricky" to use because the reverse piece of film must be spliced into the reel side for side, as well as end for end, and the whole scene would naturally be reversed from the original set-up. The best way with 8 mm for the magician to cause the milk to return to its bottle, is by having the action done before a plain background. A normal shot of him pouring milk into a glass is taken first. He can then do the same action over again using his other hand. This second shot is filmed in reverse by holding the camera upside down. When spliced into the reel, the action will seem more normal in all respects—the milk first being poured into the glass and then rising up by itself back to the bottle.

The third basic trick mentioned is single exposure. By its use a doll can be made to walk, Junior's blocks form a house and a pair of shoes to walk—by themselves.

All the foregoing filming ideas are not extraordinary in any sense and I'm sure much of it may be "old stuff" to many filmers. They were meant simply to show that a little imagination used on movie subjects amateurs are most inclined to film, can often give them a little different slant, with enough variation to make them, luckily, a little out-of-the-ordinary.—

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Press

(*Continued from page* 16)

sports and features. Three pictures by Tom O'Reilly of the *Blade* which received awards in last year's Ohio Associated Press News Photo contest were included. Photographers whose work is exhibited are O'Reilly, Carl Gifford, Harry Mayo, and Dwight Boyer of the *Blade;* Clarence Bailey, Lloyd Ransom, and Dick Greene of the *Times.*

Installation of the show is both unusual and imaginative. Old newspapers, brightened with spot color, form the background for one section which includes portraits of the exhibitors. Another section is a college representing the city desk and containing action pictures of the two city editors, Fred Mollenkopf of the *Blade* and John McGowan of the *Times.* The exhibit was designed by Donald Goodall, assistant dean of the school of design, at the museum. Leroy F. Newmyer, director, and Richard Bridenbaugh of the *Blade* public relations department assisted the Museum in arranging the exhibit.

* * *

THE LOS ANGELES Press Photographers Association has announced the establishment of a youth rehabilitation program aimed at teaching photography to selected groups of youngsters now under the supervision of the Los Angeles County delinquency prevention division. Under the project sponsored by members of the LAPPA, composed of cameramen employed by the *Los Angeles Times, Los Angeles Examiner, Los Angeles Herald-Express, Los Angeles Daily*

Red Skelton, member of the Los Angeles Press Photographers Association, tunes up for a benefit by snapping, from left: Noreen Nash, Kristine Miller, Gloria Grahame, Caren Marsh, Frances Langford.

News, Hollywood Citizen News, Associated Press Photos, Internationals News Photos, Acme Newspictures, Wide World Photos, Fox Movietone News, Paramount News, Universal Newsreel, News of the Day, and Warner-Pathe News, a modern photographic laboratory will be equipped, supplied, and maintained at La Tuna Junior Probation Camp near Los Angeles. Association members will devote their spare time and serve as instructors to give the boys "a hobby combining a possible means of livelihood in later years," according to Don Brinn, president of the

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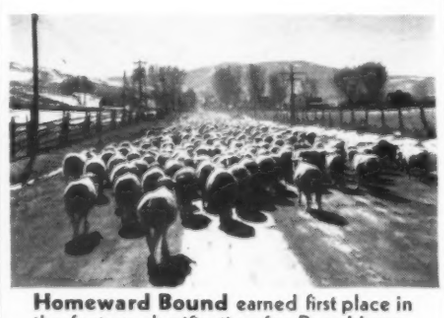
LAPPA. Funds for outfitting and maintaining the laboratory were raised at a benefit motion picture premiere of "Adventures of Casanova," at the Westwood Village theater. The Eagle Lion Studios in Hollywood which made the picture in Mexico turned over all proceeds from the premiere to the LAPPA for the program, and the Los Angeles County Board of Supervisors is constructing the laboratory from county funds for the project.

* * *

CHESTER GABRYSIAK'S picture titled, "With the Greatest of Ease," [*See pg. 176, March, 1948* POPULAR PHOTOGRAPHY—Ed.] already the winner of two awards, took top honors in the sports classification of the *Chicago Tribune's* eighth annual photographic exhibit for news camera men. Gabrysiak's picture, taken at a Golden Gloves match, showed a boxer knocked completely off his feet. It received 412 votes, the most received by any picture in any classification. The picture already had been chosen for the Edward Scott Beck award for the best news picture published in the *Tribune* during 1947 and an honor award in the Annual Graflex photo contest, which received entries from the country's leading newspapers and news picture services. "Missed," by Edward Feeney, an action shot of the Rocky Graziano-Tony Zale prize fight was voted second best in the sports classification. First choice among news pictures exhibited was "No Brakes," by Tom Johnson, showing a woman pinned beneath a bus. Second place went to Hardy Whieting's "The Cup that Cheers," showing an ice-encrusted fireman drinking a cup of coffee. Sheep walking along a road in the Rocky Mountains, was the subject of Russ Hamm's picture, "Homeward Bound," which took first place in the feature classification. Second place went to "A Goo of a Time," Robert Rhein's picture of a small child covered with birthday cake frosting.

No Brakes won first prize in the news classification for Tom Johnson in the Chicago Tribune's annual photo contest.

The Cup That Cheers took second place in the news category for Hardy Wieting.



Homeward Bound earned first place in the feature classification for Russ Hamm.

A Goo of a Time, by Robert Rheim, was voted second place in the feature group.

Missed, made by Edward Feeney at the Graziano-Zale fight, was second in sports.

* * *

PRESIDENT TRUMAN delayed his takeoff for Florida recently to do a favor for a news photographer. The photographers present had snapped their shots, and Truman had turned to go up the ramp to the Sacred Cow, his special plane. Then came an agonized yell: "Please wait, Mr. President!" from a photographer who came charging up out of the mist. Laughing, the President turned and obligingly posed once more. "You don't have your flashbulb in yet," Truman told the still rattled cameraman. The bulb was put in, the picture was

taken, and the plane took off twelve minutes behind the original schedule.

* * *

MEMBERS of the Philadelphia Press Photographers Association chose 19-year-old Miss Vicki Hollander of Phila-

Queen of the Philadelphia Press Photographers Ball is Vicki Hollander, 19.

delphia as queen of their annual ball, which will be held at the Bellevue-Stratford hotel April 17. Miss Hollander plans

Vicki was chosen Miss Press Photographer from among these two dozen contestants.

to compete for the title of Miss Press Photographer at a national contest to be held this summer at Atlantic City, N. J. Members of the press phototgraphers'

Judges were, from left: Lou Zacharias, Russell Salmon, Ben F. Armiger, George Shivers, and Jules Schick. Frank Palumbo, host at the Click night club, is serving.

group who acted as judges at the contest, held at the Click, a Philadelphia night club, are: Lou Zacharias, *Philadelphia Daily News;* Russell Salmon, *Philadelphia Inquirer;* Ben F. Armiger, manager of International News Service Philadelphia bureau; George Shivers, *Camden Courier-Post;* and Jules Schick of Schick Photos. William J. Connor of the *Phila-*

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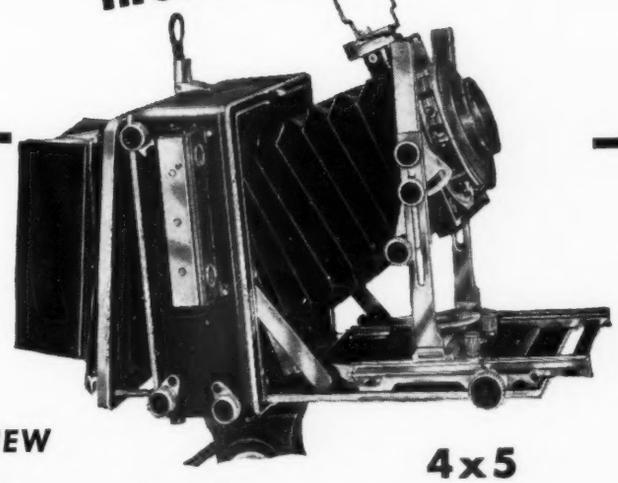

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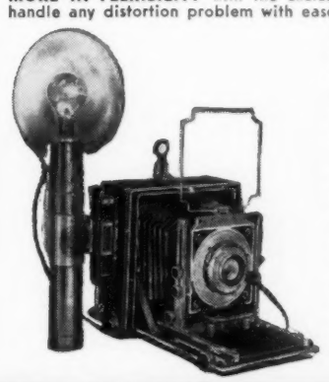

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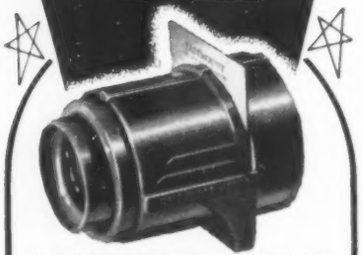

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delphia Inquirer, is chairman of the publicity committe for the annual ball.

* * *

HANS MARX, staff photographer of the Baltimore, Md., Sunpapers, led the first four prize winners in the recent Third International Salon of Sports Photographs taken by press photographers conducted by the *Club Atletico Provincial* of Rosario, Argentine, at Rosario. Six U. S. press photographers were listed among those who submitted pictures for the contest.

Award ceremonies in the Trans World Airlines Tenth Annual Photographers and Writers Contest were held recently at the Paradise Inn in Phoenix, Arizona, where winners were guests of the Phoenix Chamber of Commerce and TWA on a "Quickie Flight" from the east. Photo shows, from left, Herb Schwartz of the New York Sun, Dale Armstrong, vice-president of TWA, and John Pagoria of the Chicago Sun. Schwartz and Pagoria were honored for having made the best two aviation photos entered in the contest.

* * *

WINNERS of the photographic contest held recently by the New York State Associated Press Association were, for cities of more than 50,000 population: (spot news) Joe Jansen, *Rochester Democrat and Chronicle* staffer; (features) H. Ernest King, *Utica Observer Dispatch*, and John Burns, *Albany Times Union*; (sports) Art Abfier, *New York Mirror*. For cities of less than 50,000 population, (spot news) Stanley A. Olson, *Jamestown Post-Journal*; (features) Arthur W. Moreau, *Lockport Union Sun and Journal*, and (sports) Stanley A. Olson, *Jamestown Post-Journal*.

* * *

DENVER press photographers assisted in the recent mass manhunt when 12 of the most hardened convicts in the Colorado state penitentiary at Canon City broke out of a cellhouse known as "Little Siberia" during a blizzard. The lensmen were there when many of the convicts were recaptured, and they were dangerously close to gunfire when two of the convicts chose to die rather than return to prison. Photographer Dave Mathias of the *Denver Post* got a spectacular shot of a young convict, his eyes filled with the terror of a hunted animal, surrendering to guards. Photographer Morris Engle of the *Denver News* was there with his camera when another convict was taken at a farmhouse. The *Post* used eight men, including three cameramen, the wirephoto truck and two chartered

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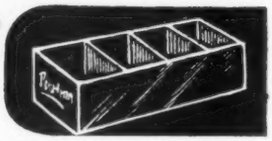

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planes to handle the story. The first photographer to arrive at the prison after the break was Karol Smith, staff cameraman on the *Canon City Daily Record*, just fifteen minutes after the break was reported. As captured convicts were brought in, he was allowed to take all the pictures he wanted.

* * *

A "FLASHSHOT of the Month" contest, designed to encourage top-flight proficiency in flash news photography, and open to all professional news photographers of the country, has been announced by Philip Sperry, general sales manager of the Photolamp Division of Wabash-Sylvania. The contest, to consist of a series of monthly competitions,

When Don Dill, lensman for the Salem Oregon Statesman, took Elaine Winkle for his bride (couple at right), two of the groom's fellow craftsmen, Robert McEwan and Moreel Crary, dressed themselves in typical Mathew Brady fashion and made powder flashes of the couple at the reception. A splendid negative was obtained, it is reported, in the ancient 11x14 view camera whose rapid rectilinear lens had a cap for a shutter. Ben Maxwell, photographer on a rival newspaper, made this flash shot of the proceedings.

began March 1 and continues throughout 1948, Sperry stated. The winning contestant each month will be awarded a Nastrix strap watch with a nationally advertised value of $250. Rules are: All photograph entries must be 8x10 glossies, and must be accompanied by complete exposure data together with descriptive or explanatory caption information. These must be sent to Flash Contest Manager, Wabash-Sylvania, 500 Fifth Avenue, New York 18, N. Y. Pictures must be taken during the period of the current month's competition to be eligible for judgment that month. Decision of the judges will be final. In the case of photographs of equal merit being submitted, duplicate prizes will be awarded. Judges will be Joe Costa, president, National Press Photographers Association; Tom Maloney, publisher, *U. S. Camera*, and a third to be selected each month among picture editors of newspapers and syndicates.

* * *

WHILE most of the northern New Jersey area was snowbound following one of the worst blizzards in decades, the *Newark News* took to a helicopter to get a layout of pictures that

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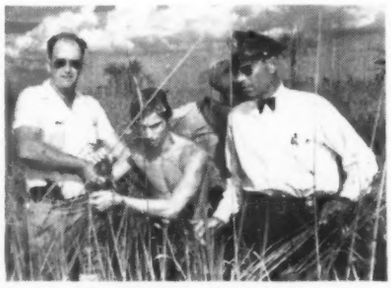
showed the effects of the big storm. Al Beissert, the *News* photo editor, made arrangements to have the helicopter in the air shortly before dawn on the morning after the blizzard. Photographer Ellsworth Schell, flying out of Teterboro airport, was able to drop his first shots taken over the center of Newark down at a spot within five minutes of the *News* office. In order to get the helicopter off the ground, Schell and the pilot were on the scene long before dawn clearing the space necessary for the takeoff. Hard luck had dogged the steps of another *News* photographer, Emil Minette, who had left before the blizzard broke to go to Stowe, Vermont, to get a skiing feature. At Stowe, Minnette had called the office to report the temperature was 20 below, it "was snowing like hell" and his camera had frozen.

* * *

HAMLIN WELLING, former chief photographer for the *Indianapolis* (Ind.) *Sunday Star* magazine, is now a photographer-writer for the advertising and public relations department of Fisher Body Division, General Motors, in Detroit.

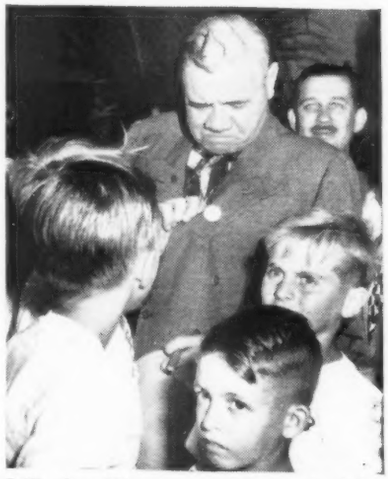
* * *

SEVERAL hundred photographs, representing the work of press photographers in the United States, South America, and Europe, were put on display February 11-15 by the Miami Press Photographers Association at Bayfront Park. The international exhibit and contest was under the chairmanship of William Edwards. Other committee members include Ted Frutkoff, Charlie Ebbets, Mike Ackerman, Bill Edwards, Ernest Bennett, Marvin Bloom, and Fred Brent. More than 700 invitations were sent out to world press photographers and press photographers associations. The pictures reproduced here were a part of the fifteen prints submitted in the contest by the Miami group.



Capture in the Everglades was made by William Stapleton of the Miami Herald after a 5-hour chase, and just as Deputy William Shields (left) snapped handcuffs on Richard Gardner, 19, who had been firing a German Mauser at pursuing police until his gun jammed. At right is Lavelle Edwards, Coral Gables patrolman. These pictures were entered in the Miami Press Photographers' international exhibit.

Heads and Tails was shot by Michael Sirico of Turfpix at a New York track during a race when a horse failed to take a hurdle. The picture already has won $500 first prize in a photo contest.



Still the King was photographed by Fred Brent of the Miami Herald. It shows Babe Ruth when he was visiting in Miami in 1947 and played host to a group of youngsters who presented him with a medal from the Boys Club of Miami. Brent caught the flash shot just as the Babe looked down to admire his new gift pin.

* * *

STRANGE footsteps heard in the offices of the *Long Branch* (N. J.) *Daily Record* by staff photographer Barry Kamm resulted in the arrest of a disorderly person. At work in the darkroom one night, Barry heard steps in the editorial room and, upon investigating, found a stranger looking around the desks. Kamm chased the intruder and cornered him in the business offices. Holding the errant wanderer with one hand, Kamm called the police and the culprit was soon whisked off to the city jail—but not before Kamm got his picture of the arrest.

* * *

THE Department of Justice may relax its rules about photographing federal prisoners. Leo M. Cadison of the Department's division of public information has notified the National Press Photographers' Association he was confident that something could be worked out to the satisfaction of the cameramen throughout the country. The NPPA has campaigned to stop the practice of some U. S. Marshals of preventing photographers from taking pictures of federal prisoners. Last November Joseph Costa, NPPA president, received a picture from William Seiter, *Detroit News* staffer, showing U. S. Marshal John Barr shielding a prisoner. The photograph was forwarded to the Justice Department with a statement from Costa that the "rule should either be kept on the books and enforced as actual policy of the Department of Justice or it should be rescinded as not being representative of the feelings of the Attorney General at this time." At-

torney General Tom Clark had repeatedly assured the NPPA that he was "entirely sympathetic" with the problems of news photographers. The answer to Costa's letter and the photograph came when Cadison assured NPPA that he felt that satisfactory arrangements could be made.

* * *

THE winners of the seventh annual Associated Press Newsphoto Contest for Pennsylvania member newspapers were recently announced. Sixty-two photographers employed by Pennsylvania newspapers entered 426 pictures in the contest. First place winners from newspapers in cities with more than 150,000 population were: News class—Don Pasquarella, *Philadelphia Bulletin;* features—Edwin J. Morgan, *Pittsburgh Sun Telegraph;* sports—Charles Steubgen, *Pittsburgh Post Gazette.* First place winners in the 50,000 to 150,000 population division: news—George A. King, *Lancaster Sunday News;* features—Stanley Olds, *Scranton Tribune.* First place winners in the under 50,000 population division: News—Willard B. Shivley, *Easton Express;* features—Eugene Orlando, *Pottstown Mercury;* sports—Paul R. Shell, *Beaver Falls News Tribune.* Photographs taken by the first place winners will be entered in the forthcoming national AP photo contest.

* * *

THE White House News Photographers Association's annual photo exhibit has hit the road for a tour of the country. Sponsored by leading newspapers, the exhibit already has been shown in St. Petersburg, Fla., Miami, Fla., Roanoke, Va., Raleigh, N. C., Hartford, Conn., Cleveland, Ohio, Louisville, Ky. Other cities will see it during the coming months. In every city, the show drew crowds of interested spectators.

* * *

TWO veteran *Chicago Tribune* photographers, Frederick Giese and Leonard D. Bartholomew, have been named the first staff members of an eight man newsreel organization being formed by WGN-TV, new WGN television station. Giese, formerly with Pathe Newsreel, has been with the *Tribune* since 1933. He won the $500 Edward Scott Beck award, established in memory of the late managing editor of the *Tribune,* for his spot news photo of Sewell Avery being carried from his office at Montgomery Ward & Co. when the army took over operations of that firm. Bartholomew has worked for the *Tribune* since 1935. He won first prize in the Chicago Press Photographers association contest in 1944.

* * *

WILLIAM LAMPE of the *Detroit Times,* Harmon Phillips of the *Tulsa* (Okla.) *Tribune* and John Carter of the *Lancaster* (Pa.) *New Era* will judge the Associated Press national contest for excellence in news photography. Appointment of the three men, managing editors of their respective newspapers, was announced recently by Stanley P. Barnett of the *Cleveland Plain Dealer,* chairman of the Associated Press Managing Editors Association, which sponsors the annual event.

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New BOOKS

OUTDOORS WITH THE CAMERA by Paul Grabbe. Published by Harper & Brothers, New York. Cloth bound, 7¼ x 8½, 120 pages, illustrated, $3.

Presented here in a revised edition, this popular book has been brought up to date on matters of technical information. A new section on techniques of refinement adds more than twenty pictures, providing a total of more than two hundred illustrations throughout the book. Every common experience in picture taking is illustrated with "right and wrong" snapshots and brief explanatory captions. Charts, diagrams, and tables for quick reference supply a ready means of making even a casual snapshot a more successful and satisfying picture.

EDUCATORS QUIDE TO FREE FILMS—Seventh Annual Edition. Compiled and edited by Mary Foley Horkheimer and John W. Diffor. Published by Educators Progress Service, Randolph, Wisconsin. Paper bound, 8¼ x 10¾, 341 pages, $5.

This book is a valuable aid in selecting currently available free films for the busy educator and film-user. For finger-tip reference, each section of the guide is identified by color of paper, and information on each film is that generally sought by educators. There is also a separate section devoted to slidefilms. The table of contents provides the broad general outline of the guide. Subject index lists specific subject references alphabetically; the film listings give full information on each film; title index guides directly to any specific film by title; source index gives terms and conditions of loans by addresses; cross index refers you to more films in closely related fields; and availability index quotes probable availability and new sources.

FOTOGRAFISK ARSBOK 1948. Published by Nordisk Rotogravyr, Sveavagen 44, Luntmakaregalan 25, Stockholm, Sweden. Paper bound, 5½x8¼, 288 pages, illustrated, $2.18 in American money. Available only direct from the publisher.

This fine year book of the work of Sweden's leading photographers contains many beautifully reproduced photographs. The book has many articles written in Swedish on photography. One section contains a list of photographic terms translated into Swedish, English, French and German.

HOW TO TAKE INDUSTRIAL PHOTOGRAPHYS by Moni Hans Zielke and Franklin G. Beezley. Published by McGraw-Hill Book Company, Inc., New York. Cloth bound, 10¾ x 8½, 113 pages, illustrated, $5.

An important trend in industry is the steadily increasing use of photographs to help sell products, to influence public opinion, and to educate and entertain employees. With more than 100 photographs this book provides a camera eye view of industry. It describes and offers solution to the special problems facing

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those who photograph men and machines. Pictorial, human interest, news photographs, and the picture story, are treated as separate sections. The photographer learns what factors must be taken into consideration and how he should apply these factors to get industrial pictures of the quality sought by advertising managers, agency executives, newspaper, general magazine, and industrial press editors. The special problems confronting those entering or occasionally concerned with this field are explained by actual photographic examples. These cover every phase of industrial photography, including advertising, publicity, engineering, and employe relations pictures. The table of contents includes the following. sections: Pictorial Interest; Human Interest; News Interest! and "How To" Interest.

CAMERA AND LENS, by Ansel Adams
Published by Morgan and Lester, New York
Cloth bound, 6x9, 120 pages, illustrated, $3

This is the first in a series of six books on basic photography by an authority who is known to many through his teaching, writing, and fine photographs. Adams' approach to photography is direct, and he believes that good pictures are made consistently only by those who acquire a fundamental understanding of both technique and application and who apply it from the start. "-*now* what you're after," he says, "*before* you begin." It is the purpose of his Basic Photo books to teach one to think "backwards" from the final print desired, even before the shutter is opened, so that the production of fine photographs becomes a controlled process, not hit-and-miss.

This first volume deals with the functions of the camera and lens. It is designed to acquaint the photographer with the working capacities of the camera and its various adjustments, the capacities of the lens, and functions of the accessories needed most often. Other topics covered include the studio, darkroom, finishing room, equipment, negative and print storage, filters, lens formulas, and field equipment.

Subsequent volumes in Ansel Adams' Basic Photo series are scheduled to follow at intervals of three months to complete his course in photographic techniques. The titles are: 2. The Negative, Exposure and Development; 3. The Print, Contact Printing and Enlarging; 4. Photography by Natural Light; 5. Photography by Artificial Light; 6. Twelve Photographic Problems.

Pinholes in a negative cause black spots on the print which can be removed only by careful etching or bleaching. These pinholes can be remedied by sliding a red filter under a wide open lens and then blackening in the spots with a soft dark pencil before the actual exposure. During development, gentle rubbing removes the pencil mark leaving a small white spot which can be easily spotted out. With a little practice, this methon can be used to put catchlights in eyes, and highlights in hair. — John Stockwell, Brooklyn, N. Y.

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Floating Lids for your Film Tanks

(*Continued from page* 81)

ing to the side. Press it down gently on the warm wax until the metal base sinks slightly and the handle stands upright alone.

Melt the remaining wax in the saucepan. Hold the handle firmly in place with the left hand and flow the wax quickly over the surface of the lid until the gap between the metal base and the ends of the handle is entirely filled, hiding the screw shaft completely. Continue pouring until the ends of the handle are covered ⅛ inch to give it a streamlined effect. This also helps form a firmer foundation for the handle.

If the instructions have been followed exactly, the wax should now be even with the top of the tank. Let go of the handle carefully. Note: When pouring, bubbles sometimes form on the surface. While the wax is still hot, immediately after the last pouring, blow all of the bubbles gently along the edges of the tank to one corner. They will break, leaving a smooth surface over the entire lid. If the bubbles are not broken while the wax is hot, they will form lumps and craters when cold.

Do not move the tank even slightly until the wax is completely cold and hard. This may take several hours as the water in the tank will have become quite warm from contact with the hot wax, and hard rubber tanks cool very slowly.

At this interesting point in the procedure, you will need a lot of patience. It is most difficult to go away and let the tank alone, waiting until the wax is hard and the sides of the tank cold to the touch. Do not think that you can hasten the cooling process artificially by pouring iced water over the surface of the wax. You may find yourself forced to dig the lid out of the tank and melt it down, starting the whole thing all over again from the beginning. In fact, if anything should happen to spoil the lid it is easier to make a new one than to try to repair the damage.

When the lid is ready to be removed from the tank, press gently with the thumb on one corner until water oozes up around the lid. Repeat for the remaining corners. When the lid is entirely free, grasp the handle and lift it carefully out of the tank. It should come out easily without pulling.

The above procedure for removing the lid from the tank is usually successful and the sides of the lid are smooth and flawless. However, some types of hard rubber tanks do not have a hard, glossy surface like plastic materials. This includes tanks made from old storage battery cases, etc. For this type of tank rub a small amount of mineral oil around the inside of the tank covering the area that extends from the top down to a depth of one inch. This must be done before the tank is filled with water for the initial pouring of wax.

After the lid has been removed, do not try to replace it in the tank until the tank has been thoroughly cleaned of any wax which might have adhered to the side walls. Scrape the sides gently with a dull table knife until completely clean.

As an additional word of advice, *never place the lid in an empty tank!* This is a floating lid and should be placed in the tank only when the level of the contents is ¾ inch from the top, or exactly the same water level when the lid was made. If placed in an empty or half-filled tank it may become wedged, and force in removing it may cause damage.

Before starting to paint the lid, smooth the entire top surface by scraping gently with a razor blade to remove any defects. Scrape away only a thin layer of wax. Do not touch the area around the ends of the handle; it is very thin at that point and must be let alone as it has molded itself into the handle. Caution: Do not scrape the sides of the lid. Even a small amount of wax removed will spoil the snug fit and make it too loose in the tank. If the bottom of the lid is uneven it may be scraped smooth with the razor blade.

Wash the lid with soap and cold water to remove any shavings or oil which may have adhered to it, then pat dry with a soft cloth. Do not rub. The lid is now ready to be painted.

Not all paints and enamels will adhere to wax and dry successfully. A sample test will save you time and trouble. Try out the materials to be used on small, flat disks of wax. If the first tests are not completely successful repeat until satisfactory.

Thin the white undercoat with turpentine only, to a smooth, flowing consistency. Using a small brush, flow the undercoat smoothly and swiftly over the top surface of the wax lid. Two thin coats will dry more smoothly than one very thick one. Allow ample drying time between coats.

Apply paint to the top of the lid only. Paint on the sides and bottom of the lid might contaminate the chemicals. Paint

MATERIALS AND TOOLS NEEDED

1. Paraffin wax—(one 12-cent package will make two lids).
2. Black, plastic, chromium-trim drawer pull of the type having screws fitting up into the handle from beneath. Curve of handle must have a clearance of at least one inch to allow for finger grip. (Approximate cost—15 cents.)
3. Two screws—exactly ¾ inch long.
4. Painted tin can not less than 4½ to 5 inches tall.
5. Tin snips.
6. Small screw driver.
7. Ice pick.
8. Straight edge ruler.
9. Spirit level.
10. Mineral oil.
11. Small saucepan with heat-insulated handle.
12. Razor blade.
13. White undercoat paint.
14. Glossy black, waterproof, stove enamel that does not contain benzine.
15. Spirits of turpentine.
16. Small paint brush.
17. Fine, pointed artist's brush for lettering.

on the top only is sufficient to exclude all light.

Thin the black stove enamel with turpentine to a free flowing consistency. It must be self leveling upon application. If too thick, bubbles will form and enamel will dry with imperfections.

Flow the enamel swiftly, with a small brush, over the entire top surface of the lid, painting in one direction only, being careful not to re-apply paint over any surface already covered. With care, bubbles may be brushed out as the paint is applied. Be sure that the first strokes cover completely. Touching up will spoil the appearance of the enamel. One coat should be sufficient to give the lid a glossy, black appearance. If a second coat is necessary, allow ample drying time between applications. If any of the paint has run over the sides, clean off carefully with a razor blade but do not remove any of the wax.

The floating lid is now completed, except for the white lettered names on the black surface, which make it easy to identify the chemicals stored in the tank.

Decide upon the size of the letters. Between ¼ inch and ¾ inch high makes a satisfactory size large enough to be read easily. Trace the letters on paper, then using their measurements as a guide, spell out the names on the lid by tracing lightly with a pencil or sharp stick.

To paint the letters use the white undercoat, undiluted and with a fine, pointed brush, letter "Developer" or "Hypo" on their respective lids.

The lids are not interchangeable and always must be replaced in the same tanks and facing the same direction as originally molded. Paint a small, white dot and one end of the lid and on the corresponding end of the tank. In this way the lid can always be placed quickly in the tank without the necessity of trying to fit it. Forcing the lid in the tank the wrong way will cause unnecessary wear.

When the paint is thoroughly dry, the lid is ready for use. Care must be taken not to scratch or gouge the surface with the fingernail. If the handle selected is large enough to accommodate adult hands no damage should come to the lid through constant handling.

All of the metal parts of the handle are completely sealed in wax and are thus perfectly protected from any contact with chemicals. If the lids are handled properly no chemicals should even come in contact with the painted surface, but, since the enamel is waterproof, no harm would be done if the lids became wet. Rinse of immediately with cold water and pat dry with a soft cloth.

With reasonable and intelligent care these sturdy lids should last indefinitely. In convenience and economy they will soon prove their value and probably make the photographer wonder how he has done without them for so long.—

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From HEN HOUSE to COLOR LAB

An ex-GI waved the magic wand of hard work, transformed a chicken roost into a darkroom, and now has a photo business

By DICK BARTLETT

Fred Ulrich, Jr.

MANY Army photographers left service bound and determined to set up commercial photographic establishments in civilian life, but few have done it so successfully, or as ingeniously as Fred Ulrich, Jr., of Boise, Idaho. Waving the magic wand of hard work, he converted a hen house to a photo lab, and now runs a tidy little establishment worth over $21,000. His story is interesting.

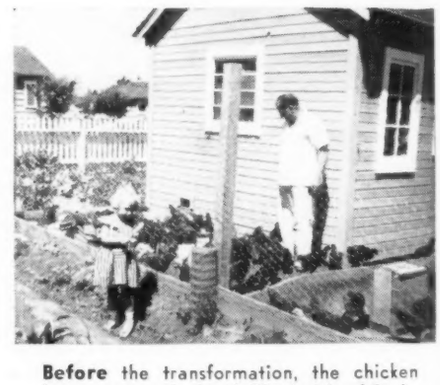
In 1938 Fred Ulrich went from high school to Aero-Industries Technical Institute to learn about aeronautics and from there to San Diego for several years with Consolidated Aircraft. In 1942 he went overseas for the Lockheed Overseas Corporation and spent two years in the British Isles reassembling Lend-Lease aircraft and instructing members of the British and U.S. Air Forces.

During the bombings and air-raids of that period, Fred felt a strong desire to have pictures of the daily havoc. It was illegal, of course, for civilians to take pictures of many phases of the raids and he believes that his desire to have those pictures was hightened by the two Army's insistent request for him not to have them. The urge was too strong, however, and Fred got his first camera, an Agfa Memo, f/3.5, with speeds to 1/200. The film, once exposed, now presented the interesting problem of illegal development. Fred remembers with pride an enlarger built from airplane parts and laughs as he tells of "latrine labs" where so many of the G.I.'s developed and made their prints.

Under these erratic conditions he became sold on photography as a hobby and when his civilian war-job contract was up in 1944, he purchased a Contax II, "with all the trimmin's," took a month vacation and shot pictures in earnest. When the month was gone he asked for voluntary induction with the U.S. Air Forces, landed in the photo labs at Wright Field, Dayton, Ohio.

At Wright, Fred worked in black and white, motion picture and color processing. He was working now with the finest equipment available and, there was no longer any hope for Ulrich and aeronautics. It was inevitable that Fred should decide on photography as a career.

In December of 1945 he received a medical discharge, and returned home from Patterson Field hospital to try his hand, now indelibly marked with de-



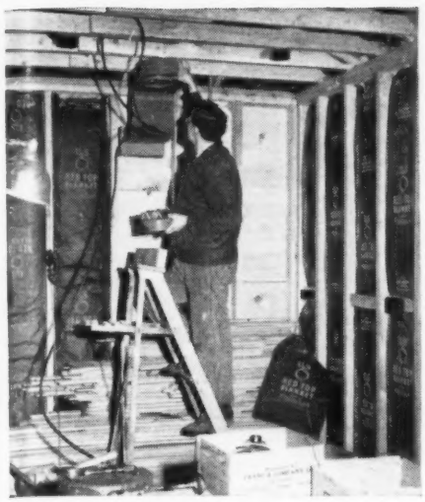
Before the transformation, the chicken house was stocked with Rhode Island Reds.

During the renovation, the fences were taken down, and new construction started.

Compact and well designed, Ulrich's new photo lab is worth approximately $21,000.

An interior view of the color laboratory shows the tiled walls and equipment used in processing amateur and commercial film.

The black-and-white darkroom is well planned, laid out for maximum efficiency. Note the oversize shelves used to store solutions.



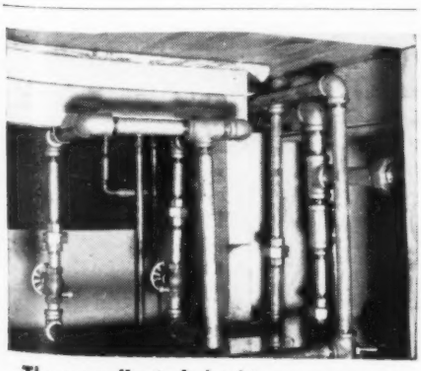
Ulrich installed a ventilating system in his laboratories to improve working conditions and to aid in control of temperature.

veloper, at commercial photography.

His first requirement was a darkroom. That problem was licked when Fred bought his father's chicken-house and remodeled it for black and white processing. Thus launched, he found business good enough to eat and sleep quite comfortably while investigating the possibilities in color work. That those possibilities were good is evidenced by the fact that his laboratory is at this writing, the only commercial plant doing professional and amateur color work in Idaho, Montana and Oregon.

He turned carpenter long enough to build and install equipment for a complete color and black and white laboratory. The original cost he estimates at around $10,000. During the six months of building Fred continued his original black and white business and made "feelers" and contacts for future color work. Color work finally came through with a bang and he now estimates his plant is worth a cool $21,000. A small two-place plane, used for aerial portraits of farms, housing projects and other earthbound subjects lending themselves to such treatment, will bump that total a few thousand more. The plane, Fred says, is rapidly paying for itself in the speed with which many pictures can be taken and the response from property owners is very gratifying.

One interesting phase of the construc-



The complicated plumbing arrangements caused Ulrich some concern and gray hair.

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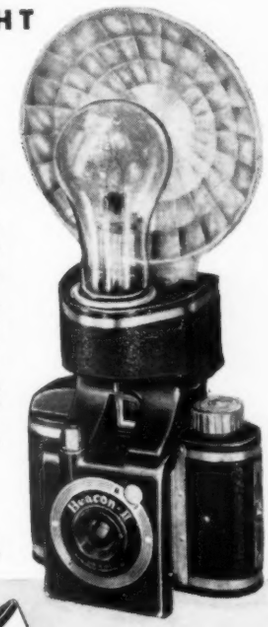

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120, 620—2¼x2¼ negs..	"24"	2.75	.95	.85
620—strips of 3—2¼ sqs. or 4—2¼x1⅝	"22"	3.00	1.30	1.05
541, 542, 122, 522.....	"16"	2.85	1.05	.90
124, 118, 518, 116, 616...	"18"	3.00	.95	.85
523 and 4x5 cut film....	"45"	3.00	1.35	1.05
5x7 cut film	"57"	3.35	1.65	1.35
8x10 cut film.....	"810"	9.00	3.00	2.00

(Refills contain approximately 100 additional printed glassine envelopes, another Index and Visible Numerical Guides from 110-200 etc. Refills for Nega-Files No. 18 and No. 20 are printed to 600 and for No. 24 to 900.)

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tion work on the photo lab included the hair-raising installation of plumbing which Fred said cost him a year's growth.

Later he, and his technicians, discovered that South Idaho water was much too dirty for color processing and after the addition of a water filter set-up, Fred found that he had to improve on the standard process by adding several steps to eliminate frilling, blistering and reticulation of color film.

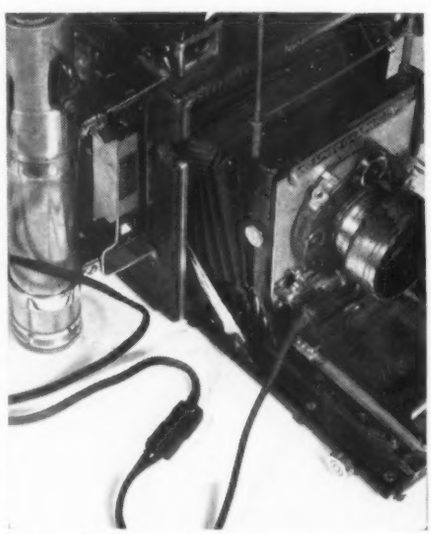
At present his rebuilt hen house turns out from 200 to 300 color prints a day, supplying about 45 dealers in Idaho, Montana and Oregon. Most of his professional color work is local but the plans to expand are in the drafting stage.

His staff at the present time includes three photographers and three lab technicians. And just before this account hit the typewriter, Fred walked in to announce, "color business is so darn good we may have to eliminate black and white entirely as there isn't enough time to handle both thoroughly."

Of course, everyone doesn't have a hen house that can be converted into a photographic laboratory, or a location as enviable as that of Fred Ulrich, Jr., but these two factors would not have helped a bit without his imagination, common sense, and hard work.—

PULL-APART CONNECTION

The electric cable that connects the flashgun to the shutter solenoid of most synchronizers always is a source of irritation and hazard to photographers who must carry their cameras open. It usually dangles in exactly the right position to catch on any projection, and many photographers have had the rather frail connecting posts of their solenoids broken or bent beyond repair. This inconvenience and expense can easily be avoided by splicing two pull-apart connections between the battery case and the solenoid. These connectors fit loosely enough to pull part before any damage is done to the synchronizer when the cable is snagged.—*W. E. Frisbie, Jr., Kenmore, N. Y.*



A spliced connection breaks apart when snagged, preventing damage to solenoid.

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Fourth Salon

Bath, Maine, Y.M.C.A. Click Club, April 15 to April 30.
Endicott, N. Y., Endicott Camera Shop, May 17 to May 31.
Ft. Wayne, Ind., Print Salon Camera Club, May 3 to May 17.
Kingman, Arizona, The Snapshot Place, April 1 to April 15.
Lawrenceville, N. J., Lawrenceville School Photo Club, May 3 to May 17.
McKeesport, Pa., McKeesport Camera Club, April 1 to April 15.
Roulette, Pa., Rocam Camera Club, April 1 to April 15.
Seguin, Texas, Texas Lutheran College, May 3 to May 17.
South Hadley, Mass., Paper City Camera Club, May 3 to May 17.
Worcester, Mass., W.P.I. Camera Club, April 1 to April 15.

Third Salon

Berkeley, Calif., Normand Photo Service, April 1 to April 15.
Champaign, Illinois, University of Illinois Camera Club, April 1 to April 15.
Mt. Vernon, Ill., Mt. Vernon Camera Club, May 3 to May 17.
Outwood, Kentucky, Veterans Administration Hospital, May 17 to May 31.
Jackson, Miss., Jackson Photographic Society, April 15 to April 30.
Portland, Oregon, Multnomah Camera Club, April 1 to April 15.
Pueblo, Colorado, Colorado Camera Club, May 3 to May 17.
Woodland, Calif., Woodland Camera Forum, May 3 to May 17.

Second Salon

Amarillo, Texas, Helium City Camera Club, May 17 to May 31.
Des Moines, Iowa, Y.M.C.A. Movie and Camera Club. May 3 to May 17.
Franklin, New Hampshire, Franklin Public Library, April 5 to April 19.
Mercer, Pa., The Giesmann Studio, May 3 to May 8.
Northwood, North Dakota, Northwood Special School, April 1 to April 15.
Port Arthur, Texas, Port Arthur Camera Club, April 15 to April 30.
Pottstown, Pa., Pottstown Camera Club, April 1 to April 15.
Wethersfield, Conn., Wethersfield High School, May 3 to May 17.

First Salon

Alexander City, Ala., Alexander City Art Club, April 1 to April 15.
Charlotte, N. C., Charlotte Photographic Society, May 3 to May 17.
Daytona Beach, Fla., Tropix Camera Club, May 3 to May 17.
Kingston, N. Y., Artcraft Photo Shop., May 17 to May 31.
Lakeland, Florida, Lakeland Camera Club, April 1 to April 15.
Lynn, Mass., Thomson Camera Club, April 1 to April 30.

—**A very simple way** of taking the curl out of a glossy print is to wrap it around a large bottle, emulsion side out, and keep it there for an hour or so Use a string or rubber band to hold the print in place and s0me wrapping paper next to the emulsion to keep it from getting marred or scratched When released, the print should lie flat —

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Revere 8mm Carrying case for Model 85 Projector	7.50
Revere 8 and 16mm Curvamatic Splicer	16.50
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Calendar of PHOTOGRAPHIC EXHIBITIONS

***Conducted according to the recommended practices of Photographic Society of America.**

Exhibition of Pictorial Photography*, Shropshire Photographic Society.

On exhibition Apr. 5 to Apr. 24, Borough Library & Museum, Shrewsbury, England.

7th Annual Exhibition of Pictorial Photography, Southgate Photographic Society.

On exhibition Apr. 10 to 17, Southgate Town Hall, London.

15th International Salon, Pictorial Photographers of America.

On exhibition Apr. 4 to 18, American Museum of Natural History, New York City.

28th Annual Competition of American Photography, The American Annual of Photography.

On exhibition in April at Boston, Mass.

12th South African Salon of International Photography, Cine Section, Johannesburg Photographic Society.

On exhibition during May at Johannesburg, South Africa.

6th Seattle International Exhibition of Photography*.

On exhibition Apr. 7 to 25, Seattle, Wash.

5th Wichita International Salon of Photography*, Wichita Photographic Society.

On exhibition Apr. 11 to 25, Wichita Art Museum.

1st Annual Salon of Marine Photography*, James River Camera Club and Mariner's Museum of Newport News, Va.

On exhibition Apr. 4 to 25, Mariner's Museum, Newport News, Va.

The Southern Collegiate Salon, Washington and Lee University Camera Club, Lexington, Va.

On exhibition Apr. 16 to 27, McCormick Library, Lexington, Va.

49th Annual Photographic Salon*, Portland Society of Art, Portland, Maine.

On exhibition Apr. 25 to May 16, L. D. M. Sweat Memorial Art Museum, Portland, Maine.

1st El Camino Real International Color Exhibition*, El Camino Real Color Pictorialists.

Closes Apr. 15.
Entry fee $1.
Four transparencies allowed.
On exhibition Apr. 26, 28 and 29, Los Angeles County Museum.
For entry forms write Merle S. Ewell, 1422 W. 48th St., Los Angeles 37, Calif.

5th New Zealand International Salon of Photography*, Waikato Photographic Society, Hamilton, New Zealand.

Closes Apr. 23.
Entry fee $1.
Four prints allowed.
On exhibition May 10 to Aug. 6 throughout New Zealand.
For entry form write F. W. Woodward, N. Z. Salon of Photography, Box 188, Hamilton, New Zealand.

7th Cincinnati Salon of Photography*, Camera Club of Cincinnati.

Closes Apr. 28.
Entry fee $1.
Limit of four prints or slides.
On exhibition May 24 to June 7, at the Cincinnati Art Museum.
For entry form write Paul Hynes, 107 Ehrman Ave., Cincinnati 20, Ohio.

International Exhibition of Photography*, Solihull Photographic Society.

Closes Apr. 29.
Entry fee $1.
Four prints allowed.
On exhibition May 29 to June 5, the Council House, Solihull, Birmingham, England.
For entry form write Donald Allen, 698 Warwick Road, Solihull, Birmingham, England.

3rd Annual Collegiate Photography Exhibitron, Kappa Alpha Mu, University of Missouri.

Closes April 30.
No entry fee. Open only to college or university students.
Ten prints allowed.
On exhibit in May at the University of Missouri.
For entry form write W. J. Bell, 18 Walter Williams Hall, University of Missouri, Columbia, Mo.

7th Montreal International Salon of Photography*, Montreal Camera Club.

Closes May 3.
Entry fee $1.
Four monochrome prints plus four color prints allowed.
On exhibition May 29 to June 20, Museum of Fine Arts, Montreal, Canada.
For entry forms write Frank J. Hopkins, Jr., 4295 Montrose Ave., Westmount, Montreal, 6, Canada.

1948 Baltimore International Salon of Photography*, Baltimore Museum of Art and Baltimore Camera Club.

Closes May 12.
Entry fee $1.
Four prints allowed.
On exhibition June 4 to 30, Baltimore Museum of Art.
For entry form write Ernest C. North, 6209 Frederick Road, Baltimore 28, Md.

10th International Salon of Nature Photography*, Hobbies Magazine, Buffalo, N. Y.

Closes May 15.
Entry fee $1.
Limit of four prints and/or slides.
On exhibition May 18 to June 14, Buffalo Museum of Science.
For entry form write Buffalo Museum of Science, Buffalo 11, N.Y.

13th International Anthracite Photographic Salon, Scranton Camera Club, Scranton, Pa.

Closes May 15.
Entry fee $1.
Four prints allowed.
On exhibition May 29 to June 13, Everhart Museum of Natural History, Scranton, Pa.
For entry form write Albert E. Doble, 1106 Fisk St., Scranton, Pa.

1st Dixie National Salon of Photography*, Dixie Camera Club, Atlanta, Ga.

Closes June 1.
Entry fee $1.
Four prints allowed.
On exhibition July 1 to 15, Carnegie Library, Atlanta.
For entry form write James K. Jobson, 108 Tenth St., NE, Atlanta, Ga.

3rd Oklahoma International Color Slide Exhibition, Duncan Camera Club, Duncan, Okla.

Closes June 14.
Entry fee $1.00
Four 2x2 slides allowed.
On exhibition June 25, Duncan, Okla.
For entry form write Bob Diggs Brown, Box 335, Duncan, Okla.

"Gateway to the North," 3rd Annual Exhibition of Photography, Edmonton, Canada.

Closes June 15.
Entry fee $1.
Four prints allowed.
On exhibition July 12 to 17, Arena Building, Edmonton, Canada.
For entry forms write "Gateway to the North," Edmonton Exhibition, Edmonton, Canada.

5th Lititz Springs Photographic Salon*, Lititz Springs Camera Club, Lititz, Pa.

Closes June 23.
Entry fee $1.
Four prints allowed.
On exhibition July 4 to 11, Lititz Springs Park, Lititz, Pa.
For entry form write David E. Miller, 37 E. Lincoln Ave., Lititz, Pa.

3rd International Salon of Photography, Camera Luxembourg.

Closes July 1.
Entry fee $1.
Four prints allowed.
On exhibition Aug. 14 to 25, at the Municipal Palace of Luxembourg.
For entry form write Georges Steil, 14, rue St. Hubert, Luxembourg.

2nd Annual Photography-in-Science Salon, Smithsonian Institute and The Scientific Monthly, Washington, D. C.

Closes Aug. 16.
No entry fee.
Four prints and four color transparencies allowed.
On exhibition Sept. 1 to 21, U. S. National Museum, Washington, D. C.
For entry form write The Scientific Monthly, 1515 Massachusetts Ave., NW, Washington 5, D. C.

Northwest International Salon of Photography*, Western Washington Fair, Puyallup, Washington

Closes Sept. 7.
Entry fee $1.
Four prints allowed.

On exhibition Sept. 18 to 26, Puyallup, Washington.
For entry form write Western Washington Fair Association, Puyallup, Washington.

5th Chicago International Color Slide Exhibit*, Chicago Color Camera Club.

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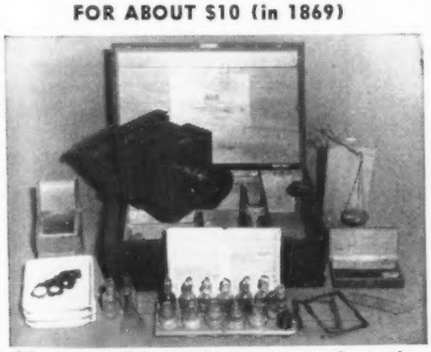

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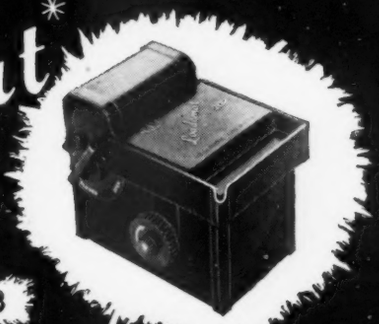

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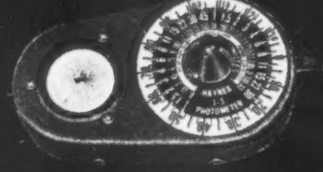

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Fitting the Negative to the paper

(*Continued from page* 82)

ness. Let us all accept this fact. When they tell you the print should be developed a minute and a half, they aren't just saying that, they mean it. If you cannot estimate a minute and a half, get a clock in the darkroom and time it exactly. If you must estimate the time, make sure any error is on the side of overestimation rather than under.

While nearly all print formulas are the same, your trouble may be that you are using a pet formula that is actually inimical to the paper used. Try shifting to the formula recommended by the paper manufacturer if all else fails. D-72 and 55-D are universal formulas good with nearly all papers. Don't play around with added bromide, or cutting the carbonate, unless you know what you are doing.

Stick to one paper as much as possible. Shifting back and forth every time you have a printing session will mean nothing but trouble.

When you make a print that you know is bad, throw it out and make another. Nothing is so bad for morale as to spend hours in your darkroom and come out with a bare half dozen flat muddy prints. Make them good or not at all.

Suit the negative to the paper. Look at the accompanying illustrations. Compare them with your negatives, and remember. Study your negatives while looking *through* them at a brightly lighted white surface, not at a bare bulb. As you study them, keep in mind the numbered negatives which illustrate this article. They are examples of the nine categories into which negatives may fall, and will help you to determine the paper and printing technique applicable to each of the negative types. These nine negative classifications are:

1. Overexposed, overdeveloped. This negative can be considerably improved by judicious use of Farmer's reducer. Lacking that, it should be printed on a medium grade of paper.

2. Overexposed, normally developed. This should be printed on a fairly soft grade of paper, particularly if the negative was made with the aid of flash equipment, which sometimes has the tendency to block up the highlights.

3. Overexposed, underdeveloped. This type is characterized by excessively detailed shadows, flat highlights. Its scale calls for a high-contrast paper.

4. Normally exposed, overdeveloped. This is dense, but has contrast. It should be printed on a soft paper.

5. Normal exposure, normal development. This is what to shoot for; print on a medium paper.

6. Normal exposure, underdevelopment. Print on a hard grade of paper, and if still low in contrast cut down on water content of developing solution.

7. Underexposed, overdeveloped. Lack of shadow detail may necessitate printing this type of negative on a soft paper, but best treatment is to print on medium paper, hold back shadows so that they will not go black.

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8. Underexposure, normal development. This is barely printable, even on high-contrast paper. A more concentrated developer may help.

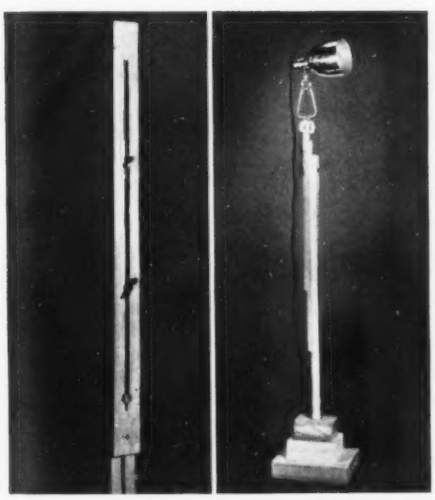
9. Underexposure, underdevelopment. This is the worst category, for even intensification will not help very much. The best place for this type is the wastebasket.

After you feel that you know these categories, symptoms, and treatments, try putting them into actual practice. Then watch your prints improve!—

HOME-BUILT REFLECTOR STAND

Adjustability is a highly essential characteristic in lighting stands, and you'll find that the stand shown in the accompanying illustration has it to a considerable degree. What's more it's easy to make, as follows:

Seat an upright (¾x1½x36-inch) in a base block. You can make the upright fit



Sliding sections (left) are locked in position by tightening a single wing nut.

firmly in a round hole in the block by means of tacking small strips of wood to the sides of the stick at the end which is to be seated. Next cut two sliding bars out of ⅜-inch plywood, making them 1½-inches wide by 24 inches long. In each of the plywood pieces saw a ¼-inch slot down the middle, to within two inches of each end. Near the top end of the stationary post drill a hole to take a ¼-inch bolt 2 inches in length, on which the slotted plywood pieces can slide. The piece which is installed next to the post has a ¼-inch hole drilled through it an inch from its top end. Then a bolt passed through this hole, plus a wing-nut, will serve to guide and lock the outer bar. Close to the bottom of the slot in the outer bar, cut a hole large enough so the wing-nut can pass through it for assembly.

When completed, the support affords a "low" position 39 inches from the floor. Both plywood strips will slide on the lower bolt to a position 54 inches high. And for real extension, the bottom of the "outer" strip can be lifted off over the wing-nut and that strip raised to a height of 74 inches.—*Herbert N. Watson, Pontiac, Mich.*

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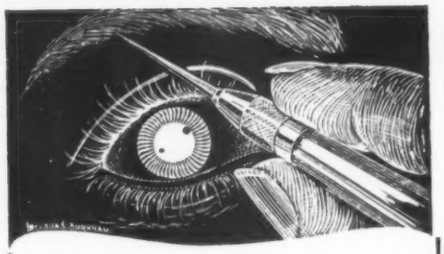

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Portrait of a Home

(*Continued from page* 58)

graphed, we will have to draw the shades or curtains to shut out the direct rays of the sun. They are much too strong and would upset the balance of our lighting. In certain cases sunshine is permissible for special effects, as in the picture taken on the sun porch among our illustrations.

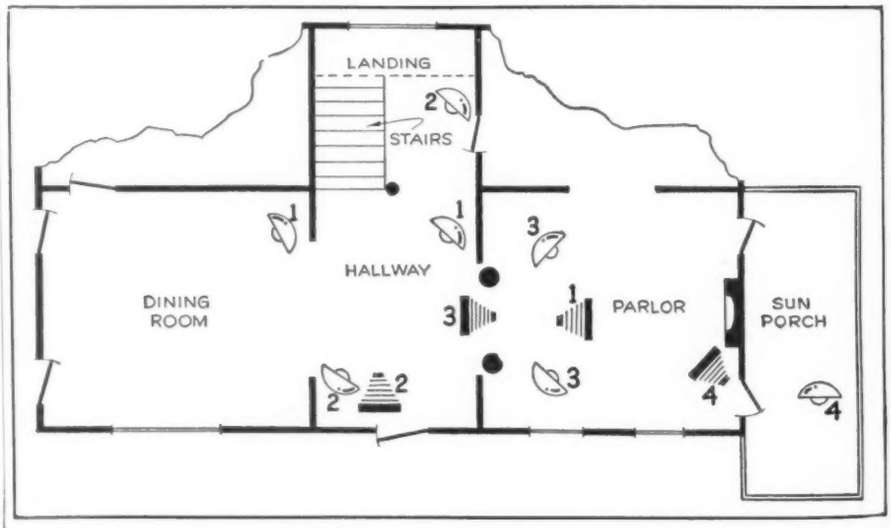
Now we have arranged the lighting for our first indoor shot. The next question is where to focus. As the final picture must be sharp all over, we must have the possible greatest depth of field. First we find an object which lies about one-third of the distance from the closest to the farthest objects included into our picture. We focus our camera on that. The camera must be on a tripod or other equally solid support. If we do not have persons in the picture, we then close our lens down to the last stop marked on its mount. On my camera it was *f*/36. This will insure the greatest possible depth of field and in most cases the picture will be sharp from foreground to background.

Next we have to determine the exposure. We take an over-all reading with our exposure meter from the camera position. Then we take a close-up reading of our main subject. We take the middle value between the two readings and figure out the necessary exposure. We should use fast panchromatic film. The exposure we arrive at with the meter *will not* be the exposure actually used. We will have to *overexpose* about *five times*. This is very important. We cannot take good indoor shots unless we stick to this rule of everexposure. The reason for this lies in the extremely wide brightness range of average indoor subjects. To get details into both bright highlights and deep shadows requires the extreme overexposure. We will not get too dense negatives despite this overexposure because we will *underdevelop* our negatives about one-third. This means that we decrease by one-third our usual developing time. For instance, if we usually develop our negatives 12 minutes, the overexposed indoor negatives will be developed only 8 minutes. These figures on the amount of overexposure and underdevelopment are given as a guide, and should be varied as required by your own particular technique. It may be necessary to adjust them to get best results with your own film, developer, and methods of handling, as well as to compensate for extreme variations in contrast from one indoor setup to another.

Let us return now to making the exposure. We focused the camera on the radiator for the photograph of the dining room taken from the living room. Then we stopped down on *f*/36 (the smallest opening marked on the lens). We took the two meter readings, one from camera position (2 seconds exposure); one close-up reading from the furniture in the dining room (4 seconds exposure). The middle value of the two was 3 seconds. So we give an exposure of 15 seconds; in other words, we overexposed 5 times. A cable release at least 10 inches long should be used to control the shutter to prevent moving the camera. Vibration of the camera during exposure should be avoided every possible way. Nobody should walk, even in the next room, during the exposure. The camera should be given a chance to vibrate out before exposure and finally the cable release should not be pulled tight—it should have some slack in it. All these may seem to be trifling details but they may mean the difference between success and failure.

The next shot taken was the one of the stairway. The camera was in the hallway facing the stairs. One light was at the left close to the camera, the second was at the far right behind the statue. (Camera and lights are marked II on the layout.)

The third indoor shot was taken of the



Camera positions and lighting arrangements for several of the accompanying illustrations are shown in this diagram of part of the first floor: 1—setup for photographing the dining room as framed through the parlor doorway; 2—shot of the hall stairway; 3—view of the parlor, facing the fireplace; 4—shot of the sunroom with a single fill-in light. While you probably will not encounter problems that are exactly the same, these ideas will help suggest approaches to different rooms.

parlor. Here one of the family was included for added interest and more sales value (including the girl meant an order for 12 postcards beside the 11x14 enlargement in the album). The bottles and glasses were put on the coffee table to show that people live in the house and to get away from a furniture catalogue effect. Lights for this shot were placed on the left and right of the camera just outside of the picture area (3 on the layout).

The shot of the sun porch was taken through an open door leading from the parlor. The sun was shining through the windows and was used as main light. To light up the face of the girl, one reflector was used on the left (4 on layout).

Most home owners have some decorative pieces which are valuable or are family heirlooms. In either case, it will pay us to photograph them; even if it means making additional shots of these details. They are sure to sell. We took

The kitchen, long and narrow, created a problem solved by shooting one side at a time through the open pantry doorway.

two such pictures, one of a Chinese vase on its pedestal and the other showing the candelabra and other pieces on the dining room buffet. Both were bought and re-ordered. The lighting was simple. We used one light at the camera and the other on the right of the subject for the shot of the dining room details. Camera and lighting positions are not shown on the layout.

We encountered a problem in the kitchen. The room was long and narrow. On one side were the gas range, sink, and cabinets. On the other side was a broken wall which served to separate the dinette area from the kitchen proper. The inside of the dinette could not be approached from any angle, so we had to settle for a view of the working area of the kitchen. The camera was set up in the pantry at the end of the kitchen and the photograph was made through the open pantry door. One light was placed inside the kitchen on the right, behind the door leading from the pantry, and the second light was clamped onto

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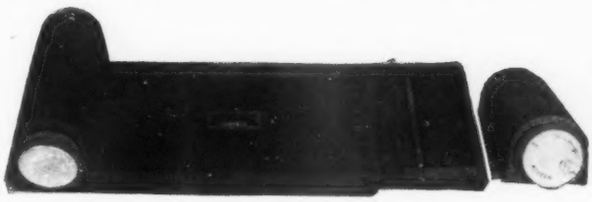

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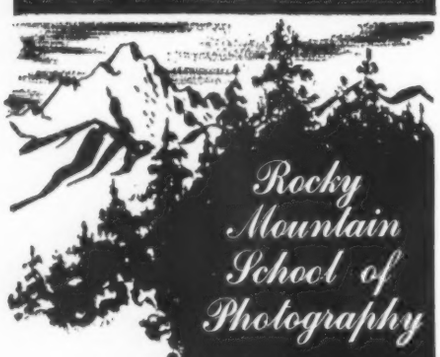

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the shelf of the dinette.

Going upstairs we noticed an impressive leaded glass window on the landing. So we photographed (and sold) that too. Just one light was used next to the camera.

Another illustration shows one of the bedrooms. Being a small room, it was difficult to place the camera. Finally we put the camera outside and took the picture through the open door. One light was placed behind the bed on the floor, the other in the room to the right. The girl was included at her own wish because it was her room.

If you follow the procedure which has been outlined here, adapting it to your own needs as you go along, you should have little difficulty in photographing an average home inside and out. Apply these suggestions to the problems that you meet, and take advantage of the opportunities for a new approach that each house offers.

If you want to make the venture a financial success, remember these points: **Take** many photographs. Make up finished prints, 8x10 or 11x14, and present them in an album. Don't show proofs. You can either buy an album and paste in the prints or mount them on cardboard and have them spiral bound. Such an album sells in nine out of ten cases.

Whether you are interested in this type of photography as a means of producing a picture record of your own home, or as a way to boost your photographic income, I am quite sure that you will find it fascinating work.—

SIMPLIFIED LIGHT CIRCUIT

One of the problems encountered with using several floodlamps is how to connect them together in the most simple circuit that does not require an excess of connectors and wire. Another problem comes up when the photographic work is completed. What to do with the wire

Plug at base of floodlight eliminates dangling wire and simplifies connections.

trailing from the reflector? Both of these difficulties can be solved by disconnecting the length of wire that is attached to the reflector and then fastening a male plug as close as possible to the reflector socket. The result is a clean arrangement of socket and plug on the reflector, and an extra length of connecting wire is added to the lighting circuits. This extra length of wire can be connected either with a single outlet female plug or a multiple outlet that allows a larger variety of lighting circuits with less wire.—*Joseph W. Ozag, Chicago, Ill.*

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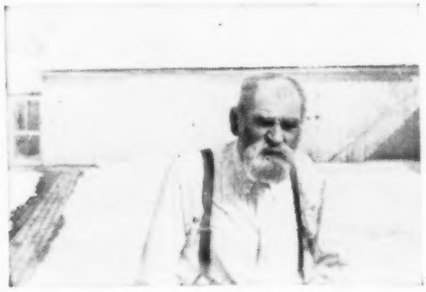
By DAVID E. MILLER



"Grandpa" was one of the shots on the color roll which was accidentally processed in a black-and-white developing bath.

A short time ago a friend of mine, in trying to re-wind a roll of 35 mm Kodachrome which he had just taken, found that it had somehow jammed in his camera and would not re-wind. Therefore he took the camera to a good friend of his, a local photographic dealer, and left it at the shop to have the film removed.

Through some mistake, the roll, after it was removed, was placed with other films to be developed. When my friend called at the shop the next day his potentially beautiful Kodachrome slides had been changed into a roll of Kodachrome negatives—but minus their color.

The roll had been developed in DK 60 and the negatives were a "beautiful" dark red—too dark for printing or so the dealer said. When I saw the roll I asked if I might try my luck at printing them.

I projected the negatives with a small Eastman projector and exposed them for four minutes and developed in D 72 which was undiluted. I used Kodabromide F2 but unfortunately, found it impossible to get any kind of results from the purely scenic shots and those of clouds. However, pictures of persons and closeups of items came out fairly well.

I don't know whether anyone else has ever had such an experience or not but I found it rather an interesting trial. The owner of the film was glad to get copies, since most of the shots could not be retaken.—

Although clouds in the background do not show up well in this mis-developed film, general appearance is still good.

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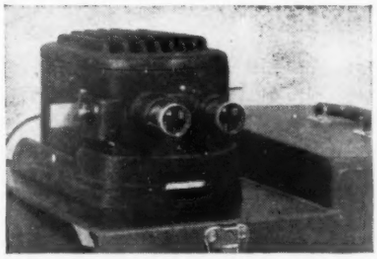

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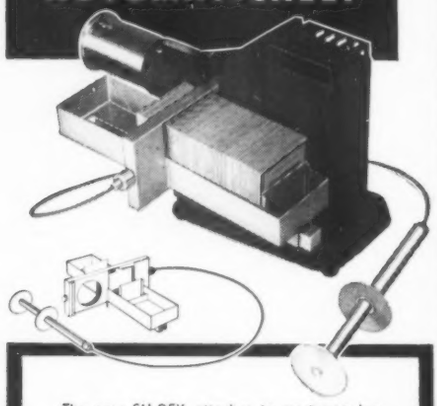

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Ready for action, the *Milwaukee Journal* gang out-gags Joe Sprague and awes all Milwaukee.

Milwaukee Madness

By HOWARD J. SOCHUREK and ANGUS McDOUGALL

WHEN Joe Sprague (of Graflex, Inc.) wrote Bob Dumke of the *Milwaukee Journal* that he planned on being in Milwaukee on such-and-such a date, and quipped, "Will you please have the band out to meet me?" he didn't realize that he was touching a match to the fuse on a powder keg. Taking his request at face value, and adding a few touches of their own, the Milwaukee press photographers played a practical joke on Joe—one that will not soon be forgotten. The accompanying pictures show just a part of the result. One photographer rounded up a six-piece comedy band; another painted several "welcome" banners; a third provided a cup of hot coffee (this the result of another quip, "Join me for coffee at the hotel); and still another called on a friend with a new convertible to provide transportation. Most important of all, the entire *Journal* staff turned welcome committee—each member armed with one of Joe's company's products.

Blaring fanfare and blinding flashes met the unsuspecting Joe at the train gate.

Having his cup of coffee amid a surging crowd, Joe was made an honorary fireman.

The hero was hoisted on the shoulders of two husky photographers and swept away.

A waiting convertible proved not to be a respite, meeting another blaze of bulbs.

(This hilarious story already had been written when the news of Joseph A. Sprague's death reached us. Beloved by press photographers the country over, he died in Boston on February 6 after a short illness. For many years he had been identified with the photo industry; for nearly ten years he had been service engineer for Graflex, Inc. Out of respect to Joe, our first impulse was to kill the story. Then we got to thinking. He always loved a good gag—and he could take it as well as dish it out. We decided to print the story anyhow. We believe he would have wanted it that way.—ED)

The gang assembled at the North Western station. Staid Milwaukeeans, never having seen so many press cameras in one spot before, began to fill the old station to capacity. Everyone wanted to know what was going on—what important personage deserved so much attention from the press. Speculations as to "Joe's" identity began to sweep through the crowd. The photographers built suspense by remaining coy and not telling who he was. To help matters, the train was late and the crowd continued to swell as the band kept playing.

Joe was greeted by Ed Farber, former *Journal* photographer, and walked unsuspecting to the train gate. Just as he was beginning to wonder what was going on, all hell broke loose. There was a blinding flash of bulbs, a blaring fanfare from the band, and the crowd surged forward. Joe was swept from his feet onto the shoulders of two husky photographers. In the midst of all this, he was bussed roundly by a bevy of wives and sweethearts, poured a cup of coffee, and presented with a card making him an honorary member of Milwaukee's fire department. Finally rushed to the waiting convertible, he was deposited in it with another blaze of flashbulbs.

A wedding-like procession noisily made its way down the main stem to the hotel. As Joe went to the registration desk, Mrs. Boyd (wife of *Journal's* Bob Boyd) clung cosily to his arm. At this point photographers sprung from under rugs and popped from behind pillars. Stringing along with the gag, Joe began to complain about threats of blackmail. It wasn't until he reached the peace and quiet of his own room that he was able to catch his breath.

The welcoming crowd quickly dispersed when the procession had passed, and except for those who were in on the gag they didn't know what sort of celebration they had taken part in until they read about it in the papers.

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In a Merry Photomobile

(*Continued from page* 59)

moves with the speed of an assembly line, and within a short time the Photomobile is ready to start for another club and a new set of films.

Couch and De Jong started literally from scratch, but within a year and a half, their venture, known as "Freelance Photographers," has proved itself a successful young business. The photomobile and its equipment represent $4,700 in assets, which includes two Speed Graphics and a 4x5 view camera, with accompanying electronic flash units. The latter were purchased because of the shortage of flashbulbs at the time.

The first step in the process, of course is taking the picture, and to insure good results, Couch and De Jong hold training courses for the camera girls who work for them. They are taught not only night

Drier, shown here in front, is moved to the rear when in use. Current is supplied by a generator located under front seat.

club photography but also free-lance photography in general. Each girl must be able to "sell" customers the picture as well as handle a camera; personality and competence are essentials.

De Jong and Couch met at a state employment office where each had gone to look for a partner who knew photography. Monte Couch, just out of the Navy where he had served as a photographer's mate, was in pre-medical school at the University of Wisconsin, and had been taking pictures on a free-lance basis, De Jong, also an ex-Navy man, had a night club photography business in mind and wanted a partner. It was merger at first sight.

They began by renting a basement room and refitting it as a darkroom, an experience which came in handy later when they adapted the milk truck into their present photomobile. Working from this room as their headquarters, they

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tried a number of different phases of work, including "kidnapping"—an approach in which they would visit various homes and snap pictures of children, mostly under five. Within a few days, prints would be submitted to the parents, and an order generally followed. As a special inducement, a free hand-painted picture was included with each order of a dozen or more.

Night club photography began in a modest way for them. Down the street, three brothers, all veterans, ran a restaurant and tavern known as the Hoffman House With their encouragement, Art De Jong sold the customers the idea of having their pictures taken. Then, after taking a number of shots, he would set off for the darkroom, loaded down with film packs, adapters, camera, and electronic flash unit bouncing against his hip.

In the darkroom Monte Couch worked at top speed developing and enlarging the pictures to 5x7 prints and mounting them to be taken back to the customers. In his spare moments he loaded film.

Obviously this "trotting technique" would never allow for a twenty-minute delivery. With an eye to future business the two boys purchased a used milk truck, converted it into a darkroom on wheels, and began contacting night club managers.

Today they have more orders than they can handle and expansion is becoming a necessity. They are enthusiastic about the Photomobile and believe that it has a place in all types of free-lance assignments. With it, a photographer can produce the goods immediately, thereby saving both the buyer and himself a great deal of time and anxiety. Certainly their own experience with it has proved its value in at least one line.

De Jong and Couch now have a thriving business, but it took a lot of persistence, and the ride wasn't always jolly. But today, as the blue truck with the painted camera on its side goes jogging down the street, you'll know that someone's picture is having a merry—and a fast—ride in the one and only Photomobile.

Popular Photography — Tremaine Spencer

"Okay, okay, wise guy! Where did you put those flashbulbs?"

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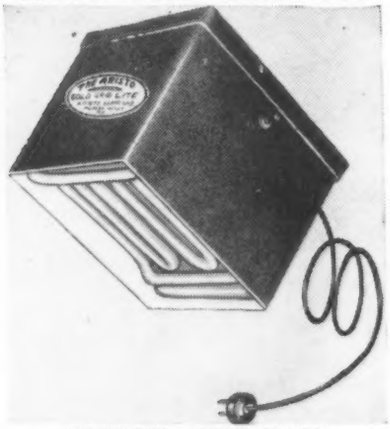

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CAMERA CLUBS

Print Salons for Exchange

Since last month, two clubs have advised us that they are ready and anxious to book salon exchanges. One is *Redlands Camera Club*, whose members would like to exchange shows with other clubs in the States, in Canada, or "south of the border." Write to the president, Stanley Shuttleworth, Route 1, Box 13E, Yucaipa, Calif.

A 20-print traveling show is ready for booking from *Co-Ed Camera Club*, Ft. Wayne, Ind. Arrangements can be made by writing to Gladys Hege, Box 566, Ft. Wayne.

Do You Photograph Rabbits?

The *American Rabbit and Cavy Photographers' Association* has been organized for the benefit of those who have frequent occasion to use these small animals as picture subjects. Membership is $2, and members receive a regular publication and can enter their work in quarterly contests and an annual salon. Further details concerning the association can be obtained from the national secretary, Ben Mickewitz, who can be addressed at North Wilmington, Mass.

Note This Change of Name

The secretary of the erstwhile *Budd Field Camera Club* (Philadelphia, Pa.) has advised us that henceforth the organization will be known simply as *Amateur Photographic Society*. Correspondence should be addressed to the attention of Dave Scott, 7352 Claridge St., Philadelphia 11, Pa.

Cine Club Has Good System for Selecting Show Films

Somewhat in the manner of a big-league ball club, *Minneapolis Cine Club* has set up a system of "talent scouts" who are responsible for culling members' work in preparation for the big Spring Show which is put on annually for the public. Each "scout" is responsible for looking over the entries of four of his fellow club-members and picking out those films which are of show caliber. A complete listing of the scout-talent divisions appears in the club's bulletin, and the cooperation among the individuals assures careful consideration for everybody's work, in addition to affording the final judges adequate opportunity to evaluate the really outstanding entries.

Painting and Photography Compared for Philadelphians

No less a personage than Eleanor Parke Custis recently gave members of *Miniature Camera Club of Philadelphia* an expert treatment of the much discussed "painting versus photography" controversy. Thoroughly accomplished in both fields, Miss Custis is an ideal analyst of the subject; and she showed the camera clubbers the value of borrowing painters' tricks without slavishly following their technique. One major point brought out during the evening was that while the camera can record detail better than brush and canvas are able to do so, nevertheless when too much detail is included in a photograph it usually becomes a record shot. The painter, Miss Custis points out, nearly always includes more detail than the artistic photographer does, yet still manages to produce a pictorial work. The authenticity and excellent tone values obtainable in a good photograph are strong points, she told the Philadelphians, and should be striven for in all cases.

GI Club in Japan Wants Prints

President C. Enion Smith of *Associated Amateur Cinema Clubs* (Chicago area) is cooperating with photographic dealers in Chicago in fighting a restrictive municipal ordinance which is under discussion. The proposed regulation would require anybody possessing 2,000 feet or more of motion picture film to store it in a fireproof container and pay an annual minimum license fee of $60. Inasmuch as such a rule would be prohibitive for many amateur movie makers and movie clubs, the progress of this matter bears close watching.

Chicagoans Fight Restrictions

Has your club a few good prints which might be sent overseas to encourage and assist a group of American soldiers who have an active interest in photographic technique? Through Lt.-Col. Karl Springer, U.S.A.F., we learn that officers and enlisted men in the Okayama Military Government Team, stationed in Japan, have had a camera club in operation for some time, and that they are most anxious to receive prints to use a basis of comparison and criticism. Traveling salons would be especially welcome, of course, but the boys will appreciate receiving a few prints of exhibition quality as outright gifts. Surely your gang can scare up some samples of its better work for this use; or if you haven't any on hand, take one evening off and make up a few prints from your better negatives. Correspondence regarding this matter should be addressed to Col. Springer as follows: Okayama Military

Popular Photography — Clarence L. Shaffer, Jr.
"Don't think for one minute you're fooling me with that new camera, Herbert!"

Government Team, APO 317, c/o Postmaster, San Francisco, Calif.

We Hear . . .

THAT the Cinema Group of *Cleveland Photographic Society* is hard at work on a 16 mm epic showing how a salon print is made. This should be good, and we'd like to see the finished film.

For the third consecutive year, *Chicago Color Camera Club* is sponsoring a series of weekly lectures and demonstrations on the subject of pictorial composition. This year's course is under the supervision of the well-known Chicago painter and commercial artist, Richard Chase.

The *Lansing* (Mich.) *Camera Club* is anxious to exchange club bulletins with you. Send them to Walter Dougherty, 1311 Ionia St., Lansing 15, Mich.

It's the golden anniversary for *Vancouver Photographic Society*, Vancouver, B. C. Fifty years of good pictures is a formidable record, and we hasten to convey our heartiest congratulations to the Canadians. *Vancouver*, by the way, issues printed visitor's cards to those whom various club members want to bring around to meetings. The cards are nicely turned out, and contain full information concerning the club and its regular activities and schedule. Like to see one? Then write to W. A. Faulkner, P.O. Box 566, Vancouver, B. C.

Here's a good idea which was passed along by *Milton* (Mass.) *Camera Club*. Following criticism of a print during the regular discussion session, the maker of the print can win ten competition points by incorporating suggestions made in a new print from the same negative. As *Milton's* Don Bradshaw puts it, this not only encourages the making of prints but stimulates the production of the best prints possible.

They really pack 'em in at meetings of *Washington* (D. C.) *Society of Amateur Cinematographers*. At a recent gathering there were 120 people on hand, which is not unusual for this outfit.

Amusing bit culled from a recent historical note concerning *The Photographic Group of Philadelphia*, as carried in the club's "Record Shots": Among the first of the *Group's* members were two gentlemen surnamed Plate, who were called Upper Plate and Lower Plate. Probably turned out a lot of gum prints.)

And speaking of *Photographic Group*, one of the present members was browsing through a magazine and saw a picture he'd taken, with an announcement to the effect that it had won him $1,000. Doing a double take, he couldn't recall ever having sent the picture. Then he noticed that the background was slightly different. Wasn't his print, after all, but he certainly felt good for a few seconds, there.

Editor Rolfe Spinning of the *Silhouette Camera Club* (Detroit) "Silhouette," wants to get a more complete statement of policy from his club's newly-elected president, with special reference to possible disciplinary action which may be taken against club members.

Rolfe wants to know what the prexy'll do if he catches some of the boys speculating in *grain* futures.—*Whit Hillyer.*

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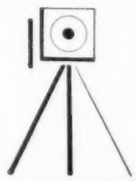

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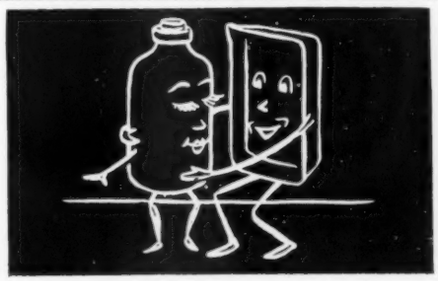

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Voigtlander Bessa F3.5, case	98.50	74.50
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Rolleiflex Xenar F3.5 ctd., case	261.50	197.50
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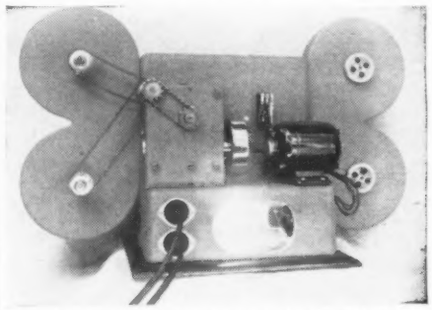
Trade Notes and News

(*Continued from page* 88)

veloper for use in the production of color prints from transparencies containing important highlight detail. Intended primarily for use with the Kodak Dye Transfer Process, the highlight mask, after exposure and development, is placed over the transparency during the exposure of the principal mask or masks, and then discarded. Its use during the preliminary masking steps is said to result in improved rendition of highlight areas.

A SMALL MOVIE PRINTER is now offered by the Daylight Film Printer Sales Corp. in their new Daylight Printer which can be switched over from 16 mm silent to 16 mm

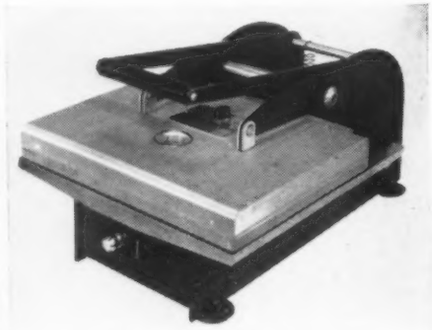


New printer designed for 8 and 16 mm film.

sound, and from 16 mm to 8 mm, single or double, with a thumb twist. The machine prints black-and-white, and color at a speed of 2000 feet per hour. It compensates and accommodates shrunken and stretched films, insuring perfect frame lines by use of spring-loaded pencil-finder locators, tension fingers, pressure plates, pressure rollers, and heavy flywheels. For complete information and price, write the manufacturer's sales offices at 251 W. 40th Street, New York 18, N. Y.

A HEAVY DUTY TRIMMER has been developed by the Ideal School Supply Co., 8318 Birkhoff Ave., Chicago 20, Illinois. The new 30x30 inch Ingento No. 8 portable cutter, which has a sturdy metal base, and tempered tool steel blade, will cut heavy cardboard and other tough materials. The bed is made of kiln-dried birch with cleats mitered into the bed, which has grooved aligning rules. Two important safety features are the guard rail that runs down the entire length of the inside cutting edge, and the safety spring-equipped handle. The spring holds the handle aloft at any height. Further details may be obtained by contacting the manufacturers.

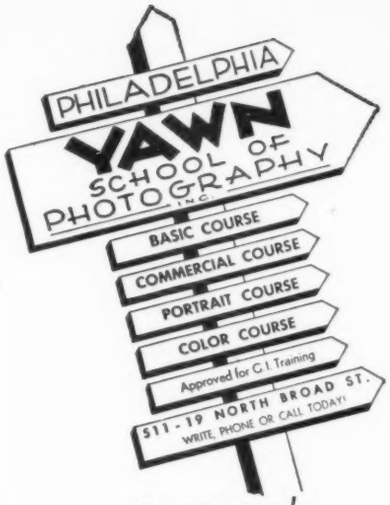
THE NEW DRY MOUNT PRESS, Model 1000, manufactured by Dayton Rogers, has been awarded to Baco Accessories Co. for exclusive area distribution. The 12x15 press



Mounting press has built-in thermometer.

provides automatic compensation, using any thickness of material up to ¼ inch. It is equipped with a dial-type built-in thermometer registering from 100 to 300 F. and an automatic red light to indicate when the press is on. For price and additional details, write to the distributors at 5338 Hollywood Blvd., Hollywood 27, Cal.

A MOISTURE-PROOF CASE which also keeps out water and dust, is announced by



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the Baco Accessories Co., in the Baco Air Lite Case which features a rubber gasket on its top cover. The lining is of lintless dark blue velvet. For complete details and price, write the manufacturer at 5338 Hollywood Blvd., Hollywood 27, Cal.

ULTRA-CLOSE-UP photography is made easy with the new Baco Extension Tubes, the Baco Accessories Company announced recently. The lens tubes for the Kine Exakta, Leica, Contax, Korelle Reflex, and 16 mm movie cameras, make possible greatly enlarged images of minute objects directly on the negative by placing one or more of these tubes between lens and camera. Sets of one each of 15, 30, and 50 mm tubes, are priced at $9.95. Adapter flanges for use with Kine Exakta, Contax, etc., are $10.00, and the complete set of tubes and flanges costs $19.75. For additional information, write the manufacturer at 5338 Hollywood Blvd., Hollywood 27, Cal.

A NEW SYNCHRONIZER designed exclusively for the Ansco Automatic Reflex camera is announced by the Heiland Research Corporation with its new Customflex Syn-

Synchronizer is designed for Ansco Reflex.

chronizer. Features include the new Lumenar reflector, 3-cell battery case with new-style clamp, universal reflex bracket, and safety grip cord, besides a new Electromatic coil which becomes a permanent part of the camera, but does not interfere with the use of the carrying case. The price of the equipment is $51.20 including tax. There is an additional charge of $22.50 for factory-type installation. For complete information, write the manufacturers at 130 E. 5th Ave., Denver 9, Colo.

AN OUTSIDE BAYONET adapter ring for filters and lens shades made for Rollei cameras has been announced by Tiffen Mfg. Corp., 71 Beekman St., New York City. This new adapter fits the outside bayonet and can be fitted in any of the three positions, being held in place by a clamping spring. The threaded portion on the front accepts all series VI Tiffen or Kodak filters and accessories, including Polaroid filters. The adapter is supplied with an insert ring to hold the filter in position when not using a lens shade. The unit is priced at $6.00. Further information can be obtained by writing the manufacturer.

A NEW TRIPOD SCREEN is now in production by the Radiant Manufacturing Corp. to add to the Champion line. The new screen, Model K, features a new swivel handle, a new spring-adjusting lock, and fully adjustable rubber-tipped tripod legs. Available in both 30x40 and 40x40 screen sizes, the new Champion retails at $13.50 and $16.00. Write the manufacturer for complete information, at 2627 West Roosevelt Road, Chicago 22, Ill.

A POCKET CALCULATOR, the new Photo Computer is offered by Bardwell & McAlister, Inc. This computer provides a simple and sure method of making calculations rapidly without any mental mathematics to determine correct exposures with filter factors, film speeds, camera speeds, shutter openings, motor speeds, and lens diaphragm openings as a few of the variables reckoned with. The Photo Computer also has been provided with a lens calculator by which the depth of field for most standard lenses, at various *f* stops and focal distances, may

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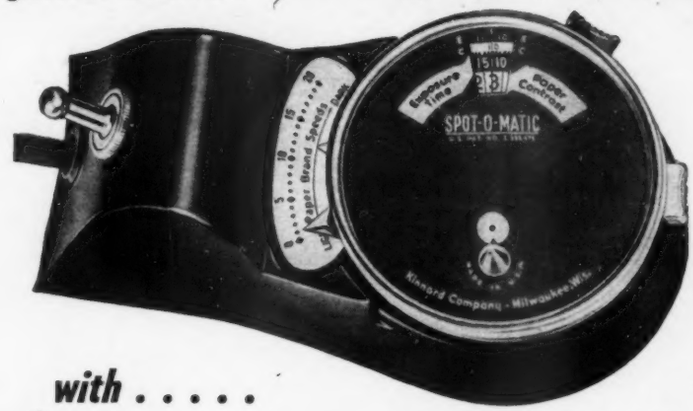

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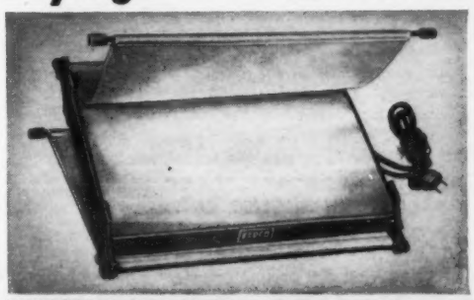
- FEDCO Developing Tanks, with the familiar RED TOP, offer the most in quality, performance and economy.
- See the complete FEDCO line of darkroom equipment at your dealer's, or write for information.



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Guaranteed 35mm. Film (36 Exp.)
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The "Slide of the Month" Club offers you a rare privilege . . . A preview of something new. Selected subject material and the finest craftsmanship in the field of color photography and transparency reproduction. No dues—no obligations. Become a member and receive each month, 12 new and gorgeous color slides never before published. Select only those you want. Return the others. Purchasers will receive a special premium Slide of the Month free. Membership costs you nothing. Full details will be sent without obligation. Just fill in the coupon below and drop it in the mail. P. S. We buy originals of top quality color and subject material.

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P. O. Box 305, West Los Angeles 25, Calif.

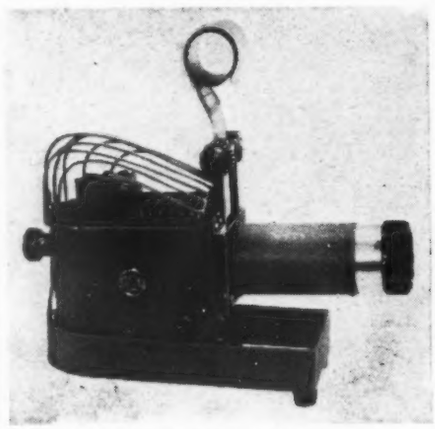
Please send me your booklet on the "Slide of the Month" Club.

Name .....
Address .....
City ..... State .....

be found. Priced at $3.95, the device is available at camera stores. Additional information will be supplied by the manufacturer by writing to Dept. 27, Box 1310, Hollywood 28, Calif.

A NEW FILM CEMENT is announced by Bell & Howell Co., for splicing all types of motion picture film. The manufacturer states that extensive tests show the new cement to possess the combined virtues of great bonding strength and splicing speed, with no distortion of film at the splice and a minimum tendency for the cement to flow over the film. The cement will be available in 1-ounce, half-pint, pint, and quart bottles besides being supplied with editing equipment. For further information, write to the manufacturers, 7100 McCormick Road, Chicago 45, Ill.

A DUAL-PURPOSE PROJECTOR for slide film and 2x2 slides, designed to give maximum simplicity of operation for classroom use, is announced by the Education Sales



New 2x2 projector built for classroom use.

Dept. of RCA Victor. A feature is the replacement of sprocket advance in favor of neoprene rollers which makes loading easier and lessens film damage. Contact the manufacturers in Camden, N. J. for details.

A CARRYING CASE for the H-8 and H-16 Bolex cameras is announced by the Baco Accessories Company with the new Baco Deluxe Bolex Case which is covered in brown Lizagator and lined with a deep-pile velvet. The case is constructed of plywood with metal reinforced corners, and is dust-trapped at all points of juncture. The Bolex is fitted to prevent any movement whatsoever in the case. The price is $36.00. For more information, write the manufacturer at 5338 Hollywood Blvd., Hollywood 27, Cal.

A DELAYED-ACTION TIMER for use with shutters not having this feature is announced by the Baco Accessories Co., in the new Baco Time-D-Lay which is adjustable from ½ second to a full minute. Variable thrust adjustment compensates for all makes of cable releases. The price is $1.95. For additional information, write to the manufacturer at 5338 Hollywood Blvd., Hollywood 27, Cal.

A NEW SCREEN is now offered by the Radiant Manufacturing Corp. This new screen, the Easematic, is a portable tripod model in sizes from 63x84 to 70x94. The Easematic operates on a counterbalance principle which gives the screen a large range of height adjustments. It is constructed of steel and aluminum. For complete details write the manufacturer at 2627 W. Roosevelt Road, Chicago 22, Ill.

A TWO-LAMP PORTABLE battery-operated Strobo-Lite, Model P-2, is now available, the manufacturers, Wilcox Photo Sales, announced recently. This model, weighing only 7½ pounds, consists of a power box with shoulder carrying strap, a lamp and cord assembly designed to fit on a Heiland or similar synchronizer battery case, a battery charger, and a 20-foot cord with extension lamp are available as accessories. The unit operates at a 20 milli-second time lag, and synchronization is easily changed by a screw-driver adjustment. The power unit has an on-off switch and visual indicator showing when ready for flashing. For complete literature, write the Wilcox Photo Sales, 7282 Beverly Blvd., Los Angeles 36, Cal.

A PERMANENT-FOCUS slide viewer has been designed by Mast Development Co., Inc. for Pictar, Davenport, Iowa. The viewer, made of black bakelite in one molded part, accommodates 2x2 color transparencies. The slide viewer is now on sale at photographic supply stores throughout the country, and is priced at $1.00.

CONVENIENT PACKET FORM is now being used for three more of Eastman Kodak Company's prepared chemical preparations —Kodak Blue Toner, Kodak Chromium Intensifier, and Kodak Sepia Toner. Each packet is a little bigger than a book of paper matches, and contains enough chemicals to prepare one quart of solution. Each packet of Blue Toner costs 75 cents; Chromium Intensifier is 20 cents, and Sepia Toner 15 cents.

A POLARIZING PLATE AND LENSHADE combination is presented by Kin-O-Lux, Inc. with the improved Marks Polarator for use with color and black-and-white stills or movies. This device, which allows the effects to be visually seen before exposure, has a high transmission with non-selective color absorption. The factor at the maximum is only about 1½ stops on pan film. The Polarator comes in three sizes: Series 0 to fit most movie cameras, at $3.75, Series V at $5.95, and Series VI at $6.95. For complete details, write the manufacturer at 105 W. 40th St., New York 18, N. Y.

TWO DOUBLE 8 REVERSAL FILMS have recently been announced by Gevaert Company of America, Inc. Super Pan has a film speed that permits exposures indoors and outdoors at normal illumination levels. Micro Pan is designed for use outdoors at normal illumination levels, and is somewhat slower than Super Pan. It is practically without grain, the manufacturer states, and is full panchromatic with anti-halo backing like the Super Pan film. Both types of film include processing in the selling price. Write to Gevaert, Williamstown, Mass. for additional information and price.

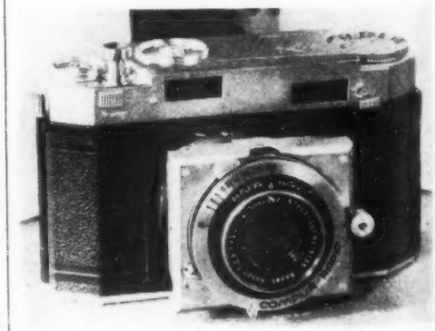
OUR CORRESPONDENT IN GERMANY reports the start of production of well-known and new Agfa cameras in the Agfa Karat *f*/3.5, the Agfa Isolette *f*/4.5, and the new Agfa Karat *f*/2.8. The two Karat cameras use the Agfa spool which can be obtained in the United States from George Levine & Sons, 55 Bromfield St., Boston 8, Mass.

The Agfa Karat *f*/3.5 takes 12 double-frame 35mm exposures. It is fitted with either an Agfa Anastigmat Apotar 2¼-inch *f*/3.5 lens, or Agfa Anastigmat Solinar 2-

Post-war model of the Agfa Karat f 3.5

inch *f*/3.5 lens, both focusing 3 feet to infinity, with diaphragm apertures from *f*/3.5 to *f*/22. It has a built-in viewfinder and either a Prontor 11 or Compur Rapid shutter. Other features include a film winder coupled with shutter release and automatic picture counter.

The Agfa Karat *f*/2.8 takes 12 exposures on the same size film and has a Schneider-Karat-Xenar *f*/2.8 lens with a 2-inch focal



Karat f 2.8 has Xenar lens, rangefinder.

length. Front lens focuses by lever with rangefinder, from 3 feet to infinity, with apertures from *f*/2.8 to *f*/16. This model has Compur Rapid shutter with speeds from 1 second to 1/500 second. Besides a quick-feeding lever, the unit has all the key features of the Karat *f*/3.5

The Agfa Isolette *f*/4.5 is equipped with either the Agfa Apotar 3½-inch *f*/4.5 lens, or the Agfa Solinar 3½-inch *f*/4.5. The apertures for both lenses range from *f*/4.5

Agfa Isolette makes twelve 2¼ x 2¼ pictures.

to *f*/22. The Isolette has either a Prontor 11 shutter with speeds up to 1/250 second, or a Compur Rapid shutter with speeds up to 1/500 second. This model has such features as a safety device to prevent double exposure, a spool holder with brake spring, and stop lever for longer exposures.

ALSO REPORTED FROM GERMANY are, the Foma-Sensitoscop, a precision instrument for all purposes of sensitometry, with the measuring done with the help of a neutral gray wedge. All light-sensitive material can be measured, for speed, sensitivity for different color gradations, etc., for daylight, artificial light; the Foma-Photoscop, a measuring instrument used for measuring gradation, range of gradation, speed and time of exposure of photographic papers for contact and projection printing; the New Luxmeter, an illumination photometer with a micro-ammeter indicator which gives the illumination directly in Lux (new candlepower) when held at the spot of illumination. The indicator is connected with a photoelectric cell by a flexible cable.

A HIGH-SPEED LENS for 8 mm movie cameras by the Elgeet Mfg. Co. of Rochester, N. Y. This new Elgeet ½-inch *f*/1.9 Uni-Focus lens makes it possible to take exposures under adverse lighting conditions without focusing. Wide-spaced markings and venier-type adjustment make accurate setting of diaphragm stops easy. All lens surfaces are hard-coated to eliminate glare, and each lens is packaged in a leather-covered steel case. The unit retails for $36.35 including tax, and is available at photo supply dealers.

A NEW BASE in the Kin-O-Stik film cement prevents gumming up the splicer, or irritation of the skin, the manufacturers, Kin-O-Lux, Inc. announced recently. This new cement has a very low rate of evaporation in bulk, so that it lasts longer and yet it dries sufficiently fast in the splice. Write the manufacturer at 105 W. 40th Street, New York 18, N. Y. for more information.

TOURS IN COLOR SLIDES are now made possible by the West-View Color Slide Club, 1523 Montana Ave., Santa Monica, Cal. Slides showing the beauties of the west and other subjects are available on approval to members involving no obligation other than returning those slides not selected. An introductory set of twelve color slides showing the West, is sent all new members on approval, plus ideas on how to start your own personal color slide library.

A RADAR-PROOF CONTAINER for safe air transportation of flashbulbs was introduced recently by the Wabash Photolamp Division of Sylvania Electric Products, Inc. The cylindrical container, measuring 17 inches in height by 12¼ inches in diameter and weighing 3 pounds, is equipped with a special lip-type cover. Retail selling price will be about a dollar, carrying strap not included. The canister is reported to be impervious to even the most powerful radar waves at close proximity.

HIGH-GLOSS PRINT SURFACES on electric or gas dryers of all types are possible with the new Mul-Co Gloss Solution, the

"A *fascinating* and *exciting* CAREER for WOMEN"

says Maeve Warren

Maeve Warren is a young charming English girl from Sao Paulo, Brazil. She is taking courses at the Progressive School of Photography and plans to continue with direct color before returning to Brazil to establish her own studio.

Her comments continue

"Photography offers a fascinating and exciting career for women. I know that my success in this field depends on my obtaining a thorough training in its many phases. For that reason, I chose the Progressive School of Photography where they have not only the most modern equipment to work with but also a highly skilled corps of teachers acting under the guidance of William Gerdes, M. Photog., as Dean."

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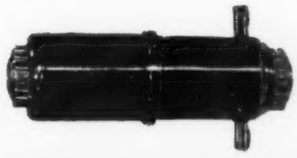

The Baco Time-D-Lay---a simple, fool-proof delayed action timer for shutters that do not incorporate this feature. Only $1.95 and practically indestructible --- nothing to wear out!

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manufacturers have announced. It is also good for use with ferrotype plates. It is available in one pint for 50 cents, one quart for 85 cents, and one gallon for $3.00. Write the manufacturers, Mul-Co., P. O. Box 32, Dubuque, Iowa for complete details and information.

NEWS NOTES: The Da-Lite Screen Company's new Projection Data Card has a 1948 calendar, standard and metric scales, and a permanent memo space on one side. The other side has an accurate screen table for 8 and 16 mm motion pictures, 2x2 slides, and 35 mm filmstrips, a standard aperture chart, standard screen sizes available, and a formula for finding the correct size screen to use with any projector, and any lens, at any distance. The card is made of plastics in a size to fit any coat or suit pocket, and can be obtained by writing to the Da-Lite Screen Co., Inc., 2711 N. Pulaski Rd., Chicago 39, Ill.

Berlant Associates of Los Angeles, manufacturers of Pictrol—variable soft focus lens attachment—have appointed as their exclusive national distributors, Carmel Productions, Inc., 6060 Sunset Blvd., Hollywood 28, Calif.

The New School, 66 W. 12th St., New York City, announces three courses in photography during the spring term. Bernice Abbott offers a course in advanced photography and Charles Leirens gives two courses, one an introductory course, and a second in portraiture with the miniature camera. All courses offer individual help, with laboratory and field work to supplement lectures.

What is the difference between a "giraffe" and a "Giraffe"? M. A. Mayers pointed it out to us, after the term was used in Poko's monthly Pix Quiz for February. With a lower-case "g" it refers to the long-necked animal, but with a capital "G" it becomes the registered trademark of a light mounted on a boom that is manufactured by Display Lighting, Inc., of New York. Our apologies, Mr. Mayers, for that lower-case "g."—ED.

PERSONALS: CLIFFORD HOWCROFT, once personal photographer to the late President Roosevelt, has been promoted to Sales Manager of the G-M Laboratories, Inc., producers of Skan products. . . . DON J. MOHLER, well-known author of books on photographic lighting, has transferred from the General Sales Division of General Electric Lamp Dept. to the Advertising Div., in charge of all photolamp promotion. . . . LEW LESSLER has been appointed Chief Engineer of Premier Instrument Corporation, the manufacturers of the Kardon camera. . . . GERALD PRAGER, has been named head of a special sales division set up by Universal Camera Corp. to handle the marketing of its new Tonemaster 16 mm sound projector. . . . J. WALKER BEEGHLY has been appointed district manager of the sales territory covering Ohio and West Virginia. . . . MICHAEL McKEND has been added to Universal's sales force in Hollywood. . . . ROBERT W. AYERS has been assigned the state of Louisiana to his other territory, Universal Camera Corporation has announced. . . . STEPHEN B. CORNELL, chairman of the board of Canadian Kodak Co., Ltd., died recently at his Toronto home. . . . ERLE M. BILLINGS, advisor of Eastman Kodak's business and technical personnel department and widely known in the chemical profession for his long service to the American Chemical Society, retired February 1, it was announced.

NATIONAL CAMERA SHOP

Did you know that you can take a *Snap* in Kentucky with a *Kodak* in Tennessee and print it on *Opal* in South Dakota? Let's see if we can stock a camera shop with the names of towns listed in the "U. S. Official Postal Guide."

At the camera counter, we find *Bantam*, Conn.; *Argus*, Pa.; *Century*, Fla.; *Crown*, W. Va.; *Falcon*, Miss.; *Cadet*, Mo.; *Hawkeye*, Mo.; *Norton*, Kans.; *Pioneer*, Ohio; *Mercury*, Texas; *Chief*, Mich.; *Korona*, Fla.; *Pilot*, Ky.; *Presto*, Pa. and *Monitor*, Wash. For beginners, we might include *Pinole*, Calif. And don't forget *Bellows Falls*, Vt.

To go with these cameras, we must have lenses and shutters. There are *Acme*, Wash.; *Cooke*, Mont.; *Packard*, Ky. and *Lenzburg*, Ill.

For enlargers, we have *Advance*, Ark.; *Omega*, Ga.; *Eclipse*, Va.; *Elwood*, Ind.; *Federal*, Pa.; *Ideal*, Ga. and *Superior*, Wis.

To supplement this equipment, we must have a good line of accessories. We can stock *Levels*, W. Va.; *Hood*, Va.; *Contact*, Nev. *Printer*, Ky.; *Heaters*, W. Va.; *Tongs*, Ky.; *Sun*, La. *Shade*, Ky.; *Brush*, Colo. and *Brilliant*, N. M. *View*, Texas finders. For specific lines, we may include *Ace*, Texas; *Gem*, Idaho; *Globe*, Ariz.; *Luxor*, Pa. and *Weston*, Mo.

Movie equipment might include *Revere*, Mass. and *Victor*, N. Y. while, in the screen line, we have *Radiant*, Va. Your customers probably will want *Castle*, Okla. films. Don't overlook *Cement*, Okla.; *Wax*, Ky. and *Reelsville*, Ind. When demonstrating a camera, don't overlook the *Loop*, Texas as you *Load*, Ky.—unless it's a *Magazine*, Ark. *Pont*, Ga.; *Dover*, N. H. and *Ensign*, Kans.

The most important item at the film and plate counter will be *Roll*, Ariz. film. Brands called for may include *Eastman*, Ga.; *Cramer*, Pa.; *Hammer*, S. D.; *Du-*

Of course, we must carry both *Bromide*, Okla. and *Chloride*, Ariz. papers. Have plenty of *Normal*, Ill. on hand and carry *Athena*, Ore.; *Apex*, N. C. and *Alba*, Pa. You might get an occasional call for *Platinum*, Alaska, from an old-timer.

The darkroom addicts will call for chemicals. We should be able to supply them with *Fixter*, Ky.; *Bath*, N. Y.; *Universal*, Ind.; *Alum Rock*, Pa.; *Diamond*, Ore.; *Hunt*, Texas, and for sepia work, *Royal*, Nebr. Some may want to *Mix*, La. their own solutions, so keep *Scales Mound*, Ill. in mind. Others may be interested in *Silver*, Ark.; *Recovery*, Ga. and how about *Elon College*, N. C. and *Nepera Park*, N. Y.

For lights, we can stock *Spot*, N. C.; *Wabash*, Ind.; *Aladdin*, Wyo.; *Sky*, Ky. and, by all means, *Light*, Ark.

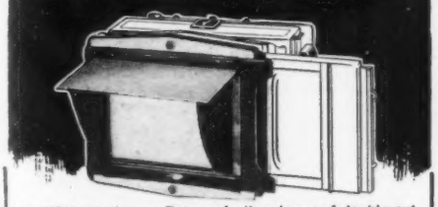
Color enthusiasts will welcome *Dye*, Va.; *Transfer*, Pa.; *Register*, Ga. and *Chromo*, Colo.

Albums and mounts should include *Juno*, Tenn. and *Gross*, Nebr. *Cabinet*, Idaho sized prints, with a *Border*, Minn. or *Edge*, Texas could be mailed in a *Cameo*, Colo. mailer.

Our camera shop could be located in *Studio City*, Calif. or *Picture Rocks*, Pa. and should serve all types of photographers, including *Press*, Ky. and *Industrial*, W. Va. Our *Services*, Ala. should include advice on how to prevent *Flat*, Mo. prints, what causes *Telegraph*, Texas *Marks*, Miss., how to avoid *Halo*, Ky., how to *Dodge*, Nebr. when enlarging, how to take an *Interior*, S. D., and how to make *High*, Iowa *Key*, W. Va. prints. If our customers use the right type of *Model*, Tenn. with a *Smile*, Ky. maybe their photos will rival the *Art*, Texas of the old *Masters*, Colo.—

G. R. Salyer, Webster, N. Y.

New "MICO" SPRINGBACK
Makes a PRESS CAMERA of your pack-type camera
The ORIGINAL Springback!



Enables you to use Baco and other types of double cut film holders in your pack-type camera. Sharp detail assured by ground glass focusing. **Springback** is attached like original single holder. Double film holder slides under hooded, spring-attached, ground glass focusing panel. No need to remove ground glass back each time. Easy to install and use. Comes complete with hood and ground glass.

2¼x3¼ for 6x9 cm cameras..... $12.50
2¼x3¼ for 9x12 cm cameras..... 13.75
3¼x4¼ for 9x12 cm cameras..... 13.75
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The Champ's a Camera Fan

Wallace Beery, who makes his living in front of the camera, makes his hobby behind one. In his photographic adventures as an amateur fan, he has an equally enthusiastic pal, assistant, and model—his sixteen-year-old daughter, Carol Ann. She delivered his newest camera to him on the set of Metro-Goldwyn-Mayer studio's "Alias A Gentleman" after finishing her school classes for the day at Beverly Hills High. The "Champ" likes to check his equipment thoroughly, and at the same time explain the features which he feels will insure him good shots.

As Wally locates the viewfinder, Carol Ann "hams it up" with an operatic pose.

Gadgets and features are proudly shown to his attentive audience and assistant.

Between every scene, Beery continues to tinker with his new pet over "coffee-and."

Proud of your new transparencies?

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You've spent time, energy, and money on those new transparencies. You're hoping that every highlight, every shading, will project as beautifully as you planned. But remember . . . *your slides can be no better than your projector.* So, bring out their full beauty by using an S.V.E. projector. Here's what makes the S.V.E. America's *preferred* projector:

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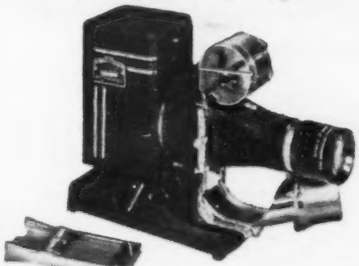
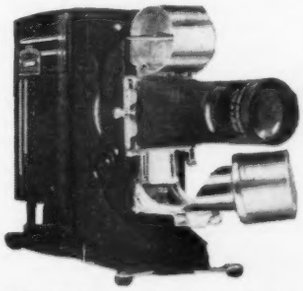
2 tri-purpose projectors



MODEL DD . . . 150 watts. 5" focal length coated Anastigmat projection (F:3.5) lens. Shows all three: 2" x 2" slides, single- and double-frame filmstrips. Simple adjustment for double- to single-frame . . . easy change-over from filmstrips to slides and vice versa. Semi-automatic vertical slide changer. Leatherette carrying case.



MODEL AAA . . . 300 watts. 5" focal length coated Anastigmat projection (F:3.5) lens. Shows all three: 2" x 2" slides, single- and double-frame filmstrips. Same features as DD but larger, more powerful.

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Voigtlander Bessa F4.5, w/case	81.00
Argoflex w/case	69.63
Kodak Reflex w/case	137.92
Rolleiflex Automat F3.5 Xenar coated w/case	261.50
Korelle Reflex F2.9 Radionar, used w/case	120.00
Korelle ½ 120 F3.5 Radionar Compur, case, used	52.50
2¼x3¼ Graflex w/FPA	157.50
2¼x3¼ Crown Graphic w/RF, 1 holder	226.65
2¼x3¼ Speed Graphic w/RF 1 holder	262.76
4x5 Crown Graphic w/RF flash & holder	254.84

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Zeiss Ikonta 'B' F3.5 Novar w/case	$ 82.50
Super Ikonta 'B' F2.8 CZT, flash & case	225.00
Zeiss Ikoflex F4.5 Novar	60.00
Zeiss Ikon 127 F4.5 CZT Compur	52.50
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Goerz Tenax F6.8 Syntor, 6 CFH & FPA	32.50
Ciroflex F3.5 Rapax shutter, new	107.95
Stereo Realist, viewer, flash & case	207.00
Haneel Coronet Stereo w/Viewer	19.95

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B&H Sportster 8MM F2.5 w/case	111.30
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Federal No. 450 4x5 F6.3 lens	112.50
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CONTESTS & MARKETS

CONTESTS

POPULAR PHOTOGRAPHY'S 1948 PICTURE CONTEST begins Feb. 15 and is open to both professionals and amateurs. Prizes totalling $60,000 in U. S. Savings Bonds plus trophies and certificates will be awarded, including six prizes each month and grand prizes at the end of the contest. No entry fee or limit to the number of pictures submitted; both black-and-white prints and color prints and transparencies are eligible. Final closing date is October 1, 1948. For entry blank and further details on contest rules, see pages 114, 115 and 153.

OUTDOORS magazine is offering $50, $30, and $20 every month for the best three pictures submitted of fishing, hunting, camping, boating, or sporting dog subjects. In addition, *Outdoors* will pay $5 for all non-prize winners that the magazine publishes. Prints should be black and white, glossy, and should not measure less than five inches by the smallest dimension. Technical data must be included. Address entries to Camera Trophy Contest, *Outdoors* magazine, 136 Federal St., Boston 10, Mass.

DREAM GIRL PHOTO CONTEST, sponsored by the General Camera Company of Chicago in behalf of Paramount's new picture "Dream Girl," starring Betty Hutton, is open to all amateur still and motion picture photographers who submit a photo or movie which depicts their own idea of a Dream Girl, young or old, comic or serious, plump or lean.

First prize in each category is a one week all-expense trip to Hollywood as guest of Paramount Pictures. Other prizes consist of $10,000 worth of photographic equipment such as cameras, projectors, enlargers, etc.

Still photos should be no larger than 4x5, and each reel of movie film should not exceed 50 feet for 8 mm and 100 feet for 16 mm. Entry blanks can be obtained from the General Camera Co., Chicago, Ill., or the Contest Department, Paramount Pictures, 1501 Broadway, New York City. Contest closes at midnight, June 15, 1948.

EASTMAN KODAK COMPANY once again is sponsoring its Annual High School Photographic contest, open to any student between the ninth and twelfth grades in any U. S. high school. Cash prizes amount to $3500, including a first prize total of $600. Pictures must be entered in one of five classes, and must be a black-and-white print, no longer than seven inches in the longest dimension. The contest opens February 2 and closes May 7; entry forms may be secured from photographic dealers or high schools, and entries should be sent to the National High School Photographic Awards, 343 State Street, Rochester 4, N. Y.

OUR DUMB ANIMALS, animal magazine, announces its annual photographic contest, offering cash prizes totaling $95 and ten one-year subscriptions. Subjects must be live animals or birds, either wild or domestic, in their natural environment. Accent is on pictures that tell a story; glossy prints preferred, no smaller than 4x5. Entrants may submit as many pictures as desired. Address entries to Contest Editor, Our Dumb Animals, 180 Longwood Ave., Boston 15, Mass. Contest ends June 15, 1948.

THE STATE STREET COUNCIL of Chicago announces a competition for the best news feature photograph of the year depicting State Street Life. The contest is open to any photographer or camera man regularly employed by a Chicago newspaper, magazine, or news bureau. All photographs must have been published or shown as newsreels during the contest year; prints must be 11x14 and be accompanied by a clipping of the published picture or certificate of release from the newsreel. Pictures published between Dec. 1, 1947 and Aug. 31, 1948 are eligible. Prizes of $500, $300, $150, and $50 in U. S. Savings bonds will be awarded. Address entries to the State Street awarded Address entries to the State Street Council, Room 608, 209 S. State Street, Chicago 4, Ill

FLASHSHOT OF THE MONTH CONTEST, sponsored by Wabash-Sylvania, is open to all professional news photographers of the country. The contest consists of a series of monthly competitions lasting throughout 1948. Pictures must be taken during the period of the current month's competition to be eligible for judgment that month; they should be 8x10 glossless, with complete data and caption, and sent to Flash Contest Manager, Wabash-Sylvania, 500 Fifth Avenue, New York 18, N. Y. Prize each month will be a Nastrix strap watch worth $250.

THE CAMERA magazine announces a series of contests offering awards of $100, $50, and $25 monthly for black-and-white prints. Winners of $100 prizes are eligible for $1000 grand award at the end of the year. Other divisions and prizes are: 2x2 color slides, $1500; home movies, black-and-white or color, 8 or 16 mm, silent, $1500; color prints, $1500. Black-and-white print competition closes 1st of every month, home movies on Sept. 1, 1948, color slides on March 1, 1948, and color prints Nov. 1, 1948. Any photographer is eligible to enter each or all divisions. Entries must be accompanied by an official entry blank. Address inquiries to General Contest Editor, The Camera, 306 N. Charles St., Baltimore 1, Md.

PSA COLOR division is sponsoring contests for color slides and prints for 1947-48 season, which are open to all color photographers. In addition to the medals and ribbon prizes, each entry receives a criticism, if requested. Entry forms are available from Blanche Kolarik, 2824 S. Central Park, Chicago 23, Ill.

SIX ARGUS FILTER-PHOTO CONTESTS will be held during the next six months with prizes totalling $840 for amateur photographers. Pictures submitted must be taken with a filter, though not necessarily an Argus filter or with an Argus camera. Full details and entry blanks are available at Argus dealers. The contests will continue until November; first contest closes Apr 10.

IOWA STATE FAIR announces a photographic competition open to the world and offering more than $100 in cash prizes for its 1948 Photographic Salon. Eighteen different sections ranging from action photos to still life subjects are offered in this year's classification, including a special class for colored photos. Complete premium list may be obtained from L. B. Cunningham, Secretary, Iowa State Fair, Des Moines, Iowa. Dates of the 1948 Fair are Aug. 25 to Sept. 3.

MARKETS

NATIONAL PHOTO FEATURES, 3500 Emerald St., Philadelphia 34, Pa., is in the market for 4x5 Kodachrome transparencies of attractive girls, children, animals, etc. Also needed are 8x10 black-and-white photographs, either single shot or in series, on human interest, personalities, spot news, and sports. Include return postage and release with material. Copyrighted pictures are not wanted.

INTERNATIONAL HARVESTER COMPANY seeks action pictures of operational scenes in which their products are shown at work in the United States and Canada. Before submitting any prints, write to the Consumer Relations Department, International Harvester Co., 180 N. Michigan Ave., Chicago 1, Ill., for form number A-65-KK.

Kappa Alpha Mu, national collegiate honorary fraternity devoted to photo journalism, announces its third annual 50-print Collegiate Photography Exhibition. Science Illustrated, co-operating with Kappa Alpha Mu, will award the grand prize which includes a trip to New York with traveling expenses paid, seven working weeks with the magazine at a salary of $50 a week, and promise of a job if the winning photographer proves acceptable. Any college student may enter up to ten prints, 5x7 or larger. No entry fee; for blanks write W. J. Bell, 18 Walter Hall, Universtiy of Missouri, Columbia, Mo.

Aremac Camera Company, 1 East 43rd Street, New York City, is sponsoring a "Glamour Girl Photo Contest," beginning Mar. 10 and ending May 1. Cameras, film, lights and other equipment will be awarded as prizes. Entrants may submit as many photos as they wish. They will be judged on technique and overall production.

THE OAKLAHOMA TRANSPORTER wants photographs pertaining to automotive transportation covering such subjects as trucks on the open road, wrecks, fires, new or unusual equipment, repair shops, etc. With each photograph or series there should be a brief

explanation of 50 words or less. Prints should be 8x10 glossy with release. Payment of $2 to $5 on acceptance. Send to the Oklahoma Transporter, P. O. Box 814, Tulsa 1, Okla.

RELIGIOUS NEWS SERVICE is in the market for photos of inspirational nature for syndication to religious press. Want scenics, family groups, seasonal shots, children at play or prayer, Bible studies, Sunday school subjects, and other church activities. Pay $5 to $10 each for those accepted. Must be good glossy 8 x 10 prints. Religious News Service, 381 Fourth Avenue, New York 16.

PHOT-O-PINION, a survey and photographic service for trade and business papers, is seeking new correspondent-photographers. Payment is $3 per photo and 25-word legend. All work is on a definite assignment basis. When applying, correspondents should give age, experience, present business affiliation, present area in which he is now operating, and submit small sample of camera work. Enclose return postage. Address Phot-O-pinion, 49 Monticello Ave., Jersey City, N. J.

ROLLANS AND JOSEPH are looking for good color transparencies, 2½x3½ and up, of babies and children, animals, children and animals together, and pretty girl pictures of "Cover Girl" type and quality. Also black-and-white prints, 8x10, glossy, of the same subject matter. They pay 50 percent of gross, after the sale. For information, write Clarence M. Rollans, Rollans and Joseph, 2161 Shattuck Avenue, Berkeley, California.

FINECRAFT COLOR wants transparencies 2½x2½ to 4x5 for sample and display use. Scenics, women, and children desired, and all should be vertical composition. Photo and model releases with all transparencies, which remain the property of photographer; reproduction rights wanted for one year. Will pay $5 to $10 per transparency. Address Finecraft Color Laboratories, Inc., Dept. 2, 1015 6th Ave., New York 18, N. Y.

PEERLESS SALES CO., Room 904, 1472 Broadway, New York, N. Y., will purchase original 16 mm or 8 mm movie film of sport subjects of any footage, edited or not. Wide distribution and full credit given, and material promptly returned prepaid if not usable.

OUTDOOR PHOTOGRAPHERS LEAGUE, non-profit organization of amateur as well as professional movie and still camera enthusiasts and illustrators, is in a position to market photo features along outdoor lines. Interested freelance cameramen can obtain specific information on OPL, types of material desired and how pix are handled and payments made by writing to OPL, 4486 Point Loma Avenue, San Diego 7, California. Sample Newsletter sent on request.

DE TROY PRESS, INC., 420 Grand Ave., Englewood, New Jersey, is in the market for Kodachrome transparencies of subjects suitable for calendar illustration. Material promptly returned prepaid if not usable.

PEERLESS FILMS, Box 171, Canal Street Station, New York 13, N. Y., will buy photographs of women in sports, muscular women, women athletes, etc.

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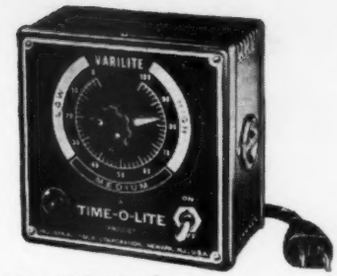

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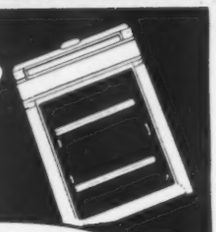

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USED Bargains. Cameras: 5x7 Linhof Teknica, f4.5, Xenar, compound, 12 holders, case, $395. 3¼x4¼ RB Graflex D, 6" f4.5 Zeiss Tessar FPA, case, $179.50; 5x7 Speed Graphic, 7½" B&L Tessar, $124.50; 2¼x3¼ Anniversary Speed Graphic, 101mm f4.5 Ektar, coated, flash Supermatic, $179.50; 3¼x4¼ RB Graflex "B", f4.5 Kodak Anastigmat, FPA, $109; 9x12 Ernemann Reflex, 6½" Dagor, 6 double holders, FPA, case, $149.50; 127 Rolleidoscope, f4.5 Tessars, case, $295; Kine Exakta, f2.8 Xenar, case, $249.50; 2¼x3¼ Rangefinder Bessa, f3.5 Heliar, compur rapid, $159.50; new 5x7 Ansco Universal View, $127.10; new 5x7 Korona Commercial, $65; 4x5 Crown View, $49.50; 2¼x3¼ Rilex, less lens, $49.50; 35mm Leitz Valoy, $64.50, 5x7 Solar, less lens, $64.50; spring back adaptation for Linhof, $39.50; Rangefinder eyepieces ground to your prescription. Lenses: for Leica 135mm Hektor, $124.50; 90mm Elmar, coated, $99.50; 73mm f1.9 Hektor, $179.50; 50mm f1.4 Biotar, coupled, $199.50; Universal finder, $49.50; Vidom, $34.50; Rapid Winder, $19.50; sliding copying attachment, $34.50; new Eldia printer, $38.50; 101mm, f4.5 Kodak Ektar, coated, flash Supermatic, $54.50; 12" f6.3 Ilex Paragon, coated, new, Acme, $136; 85mm f4 Triotar for Kine Exakta, $139.50; ditto for Contax, $124.50; 5¼" f4.5 Dogmar for Korelle, $79.50; 6" f4.5 Tessar for Korelle, $99.50; 5¼" f4.5 Heliar, coated, compur, $69.50; 8¼" f4.5 Xenar, coated, compound, $149.50; 8¼" f3.5 Xenar, compound, $164.50; 9¾" f4.5 Xenar, compound, $174.50; 10¾" ditto, $189.50; 16" f4.5 Zeiss Tessar $495; 12" f9 Zeiss Apo-Tessar, $249.50; 18", $349.50; 24", $449.50. Special! Built-in synchronization for all compur or compound shutters, for Speed-Light and flash bulbs, fully guaranteed, 7 day service, $24.50. Wells-Smith Camera Co., 15 E. Washington St., Chicago 2, Illinois.

LOWEST prices on used Mercury II cameras. Panhandle Cameras, Scottsbluff, Neb.

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WANT fine cameras, Lens, etc. Also Rollei, Leica and Contax lens and accessories. Trade or pay cash. Kirby, 730 Edgemont St., Dallas 16, Texas.

CONTAX Camera or complete outfit, with all lenses and finders. Louis Rednal, 890 Avenue of the Americas, New York 1, N. Y.

ROBOT II, Biotar f2, telephoto, case, accessories. Give full particulars in letter, must be dirt cheap. Hollis Button, Valley City, N. Dakota.

SEND us your camera today. Will send certified check by airmail immediately. Items held 10 days for your approval of our price. Free estimates—Trade-ins. Highest prices in the U. S. for photo equipment. "Cleveland's Camera Super-Market," Rotbart and Reitman, 1900 East 9th St., Cleveland 14, Ohio.

WANTED 35 mm Leica or Contax Outfit, write giving all details. Box 829, c/o Popular Photography, Empire State Bldg., New York, N. Y.

LOOKING for Auto Rolleiflex, Standard Rolleiflex, Ikoflex II or III, or any good 2¼x2¼ Reflex. Box 830, c/o Popular Photography, Empire State Bldg., New York, N. Y.

WANT telephoto and wide angle lenses for Contax Camera. Box 831, c/o Popular Photography Empire State Bldg., New York, N. Y

NEED good 35mm Camera. Write in full Box 832, c/o Popular Photography, Empire State Bldg New York, N Y.

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CASH! Spot cash for cameras, lenses, binoculars, movie or still, sound projectors. Send full description by mail, or wire for prompt cash offer Over 30 years of dependability insures honorable dealings. Bass Camera Company, 179 West Madison Street, Chicago, Ill.

TOP cash prices paid for cameras and lenses. Alfred Bass, 51 Second Street, San Francisco 5, Calif.

HIGHEST Prices Paid for Leica, Contax, Rolleiflex, Rollfilm, Reflex, Movie Cameras, Projectors. Ace Camera Exchange, 136 E. 58th St., New York 22, N. Y.

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WANT 16mm pictures, projector, camera. Also Contax, Leica or Rolleiflex. Ragin, 2827 Westwood Blvd., Los Angeles 34, Calif.

WANT 10, 12, 14" Dagor in shutter. Christopher, 1380 Kelton Ave., West Los Angeles 24, California.

PILOT Miniature Reflex, using 127 film, fast lens, case. Frank Miller, 650 Phelan Building, San Francisco, Calif.

LEICA, Contax or Rolleiflex. Mr. Morris, 172 Martine Ave., White Plains, N. Y.

WANTED Eastman Kodachrome Adapter B for 35mm film. Wilfred Hickman, Fairmount, Ill.

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GOERZ Double-Anastigmat series III. Zeiss Protar lenses. Describe. G. Mitchell, 142 E. 18th St., New York, N. Y.

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CINE Special with E.K. f1.9 focusing 25mm lens. Excellent condition. Special removable C-mount adapter. $600. Also special time and motion study gear-driven silent B & H Filmomaster 16mm Projector with 2" f1.6 lens, hand crank and frame counter, heat filter, case, LN $275. Either item shipped with privilege of inspection before you pay. Norman Cook, Box 850, Anderson, Indiana.

SPECIAL 8mm film 50 Weston, famous brand, guaranteed, not war surplus, to fit Revere, etc. Reg. $2.00 per roll, 3 rolls for $4.38, postpaid. Discount Film Service, 1186 Broadway, New York, N. Y.

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DEMONSTRATION models, like new. Revere Projector & Deluxe case, $109.50. Revere 88 coated, 2.5 like new, $68.50. Special offer combination, $175. Royal Television & Photographic Co., 1500 Southern Boulevard, New York 60, New York.

WE need good used sound projectors. Trade in your old sound projector for a new Victor, Ampro, or Natco! Up to $350 trade allowance. Tell us what you have and which projector you want. Used sound projectors from $150. Gamerman's, 3808A Eastern Avenue, Baltimore 24, Maryland.

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WE buy, sell, rent, exchange home movies. Details for dime. Midland, Box 429, Oak Park 5, Illinois.

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INDEX OF *Advertisers*

MAY 1948

ADVERTISER	PAGE NO.
A. P. Products	195
Aabalton's Photo Fit Album Co.	198
Ace Camera Exchange	136
Acme-Lite Manufacturing Co.	17
Acra Instruments	168
Aero Parts Supply	196
Airborne Sales Co., Inc.	136
Ajo Co.	144
A'Lann Photo Labs	169
Alburger Research Products Co.	198
Amateur Fotographic Services, Inc.	185
Amateur Screen Photography	124
Amberg File & Index Co.	169
American Bolex Company, Inc.	9, 89
American Cinefote Corp.	190
American Hard Rubber Co.	189
American Masterpieces	144
American Products Co., The	185
American School of Photography	149
Ampro Corporation	109
Ansco	Second Cover
Antonelli School of Photography	189
Apparatus Development	183
Archer School of Photography, Fred	197
Arel	7, 159
Aremac Camera Co., Inc.	101
Argonaut Photographic Laboratories	168
Argus, Incorporated	116
Aristo Glass Laboratories	188
Artisan Guild	199
Atkinson Laboratory	173
August Camera Repair	200
Austin Camera	200
Austin's Darkroom	198
Ax-Cel Photo Lab.	198
Baco Accessories Company	193
Bahnsen, Axel	198
Ball, Bill	199
Baltimore Institute of Photography	12
Bardwell & McAlister, Inc.	100
Barnett & Jaffe	199
Bass, Alfred	160
Bass Camera Co.	179
Bausch & Lomb Optical Company	20
Bear Color Service	170
Bell & Howell Company	206
Benefit Film Corp.	122
Benson & Co., A. L.	159
Beta Photo Laboratories	178
Better Films	128
Better Pictures	160
Bloom's Camera Center	106
Boes Co., W. W.	167
Bradley, Milton	156
Brand Camera Company	100
Bright Star Battery	96
Broadway Camera Exchange	151
Brooks Institute of Photography	186
Bruno Studios	180
Burke & James, Inc.	29
Busch Precision Camera Corp.	23
Calichrome	198
Cambridge School of Photography	168
Camera Corner	176
Camera Corporation of America	21
Camera House, The	161, 174, 183, 195
Camera Mart, The	196
Camera Place Inc., The	205
Camera Services, Inc.	191
Capitol Photo Supplies	199
Caprod, Ltd.	186
Carroll's For Color	132
Castle Films	129
Central Camera Co.	30
Century Photo Service	168
Certified Photo	199
Chicago Camera Co.	110
Chicago School of Photography	194
Chromart Laboratories	152
Chromat-O-Scope	164
Ciro Camera, Inc.	178
Clarus Camera Mfg. Company	146
Cleveland Color Service	132
Cleveland Instrument Service Co., Inc.	198
Cohen's Exchange, Inc., Abe	27
Color-Craft, Inc.	152
Columbus Photo Supply Corp.	147
Compco Corporation	150
Connecticut Academy of Photography, Inc.	100
Conway Camera Co.	187
Coogan Co., The	10
Craftsmen's Guild	164
Craig Manufacturing Company	179
Crestwood Photo	199
Davidson Manufacturing Co.	156, 164
Defender Division of E. I. du Pont de Nemours & Company (Inc.)	3
deGroff Laboratories, Inc.	144
De Jur-Amsco Corporation	127
Delta Photo Supply	13
Developix	150, 164
Dome Precision Corp.	132
Dowling's	31
Dunn Engineering Company	92
Dynamic Color Labs.	199
Eagle Pencil Company	168
Eastman KodakCompany	75-78, FourthCover
Edmund Salvage Company	24
Edwal Laboratories, Inc., The	159
Edwards Fine Grain Laboratory, Inc.	178
Eight-Sixteen Films, Inc.	126
Elgeet Mfg. Co., Inc.	161
Elk Studio	178
Encyclopaedia Britannica Films, Inc.	122
Engel Art Corners Mfg. Co.	144
Equipment Exchange	106
Era Tool & Engineering	167
Erico Specialties	199
Eveready Color Laboratories	177
Exciting Films	122
FR Corporation, The	26
Fedco Products	191
Federal Mfg. & Engineering Corp.	32
Fidelity Manufacturing Co.	175
Filmdex	132
Finart Laboratories	106, 160
Finecraft Color	178
Fixatone	198
Fort Worth School of Photography	183
Fotomatch Co.	199
Fotoshop, Inc.	155, 174, 188
Franklin Photographic Industires, Inc.	125
Gairient Photo Suppliers	158
Galef & Son, Inc., J. L.	25
Gammerman's	108
Ganz Co., A. J.	108
General Camera Co., The	33, 161, 166, 195
General Electric	34, 189
Germain School of Photography	163
Gevaert Co. of America	171
GoldE Manufacturing Co.	14
Graham Scientific Instrument Corporation	181
Grant, Alex	156
Graphicraft Publications	199
Guide-Pix	160
Gundlach Manufacturing Corp.	160
Haber and Fink, Inc.	22
Harrison Studios	92
Hartford Institute of Photography	178
Haynes Photometer Co.	178
Heath Co.	134
Heiland	93
Herbert, Henry	160
Hollyslide Co.	142
Hollywood Photo Mfg. Co.	199
House of Photography, The	134
Houston School of Photography	198
Hub Mail Film Service	175
I-D-Cal Co.	187
Ideal Film and Supply Co., Inc.	130
Ilex Optical Company	42
Industrial Timer Corporation	197
International News Photos (Hearst Co.)	146
International Sales Co.	184
J. and J. Sales Co.	120
Jaegers, A.	106
Jen Products Sales Co.	182, 183
Kalart Co., Inc., The	43
Keen Photo Products, Inc.	180
Kerman Instrument Co.	175
Keystone Manufacturing Company	131
Kimac Company, The	169
Kinnard Company	191
Klein & Goodman, Inc.	159
Kling Photo Supply Corp.	163
Koloroll Developing Co.	199
Kolorprince	190
LaFrance Productions	199
Lefkowitz & Bros. Inc., Louis	103
Leitz, Inc., E.	36
Leotone	199
Levine & Sons Co., George	37, 197
Library Films Inc.	126
Life Color Labs.	174
Long Beach Camera Exchange	148
L. A. Camera Exchange	165
Lutz, Andrew E.	199
Mail-bag Film Service	136
Manhattan Photo Service	161
Marshall Photographers, Inc.	162
Marshall's Photo-Oil Colors	38
Melrose Camera Shop	186
Memphis Photo Supply Co.	144
Mendelsohn Speedgun Company, Inc.	102
Merit Color Labs.	195
Meyer & Co., Inc., Hugo	39
Mico Photo Products Co.	195
Midtown Optical & Camera Service Co.	198
Mills Photographic Engineering Lab., The	174
Miniature Film Supply Co.	156
Minicam Photo Labs.	186
Minifilm Camera Exchange	111
Minilabs, Inc.	186
Minlargements	164
Model Film Company	154
Model of the Month	150
Montgomery Ward	104
Morgan Camera Shop	142
Morse Instrument Company, The	144
Motion Picture Institute of the U.S.A., Inc.	130
Mounties, Inc.	108
Movie-Mite Corporation	124
McMorrow, Berman & Davidson	136
N. Y. Mirror, The	156
Nash Color Laboratories	181
National Capital Processing Laboratories	205
National Cinema Service	120
National Educational Alliance, Inc.	107
National Photo Coloring School	96
National Photo Labs.	156, 182

ADVERTISER	PAGE NO.
National School of Photography	205
Nega-File Company, The	174
Nemco Sales	150
New York Camera Exchange	167
New Institute	191
New York Institute of Photography	35
New Yorker Film Co.	192
Northeastern Film Supply Co.	142
Novel Art	130
O K Photo	198
Official Films Inc.	123
Olden Camera & Lens Co.	95
Omnifilm	128
Optical Film Engineering Co.	160
Pacific Coast Film Company	198
Pacific Color Slide Co.	192
Palm Beach Color Labs	199
Peerless Camera Stores	18-19
Penn Camera	5
Petrov Photographic Technical Service	200
Photocenter	141
Photographic Age	135
Photo Lab, Inc.	187
Photo Lens Co., Inc.	168
Photomammoth Murals	200
Photoslides	154
Photo Specialties Co.	199
Pioneer Scientific Corporation	98
Ponder & Best, Inc.	126, 142
Positive Print Co.	199
Prime Photo Products Inc.	177
Professional Press	198
Progressive School of Photography	193
Projection Print Photo Service	198
Quick-Set, Inc.	94
Rabson's	190
Ray Schools, The	164
Reade Optical Company, Inc.	190
Reflector Belt Co.	168
Revere Camera Company	121
Riger's Film Library	128
Rochester Laboratory, Inc.	166
Rocky Mountain School of Photography	182
Roehrig-Bielenberg Co.	183
Roushon Institute of Photography	132
Royaltone Camera Stores	41
Salonco	150
Saltmarsh, Robert	194
Saltzman, Inc., J. C.	98
Salving Photo Service	136
Santos Schools	162
School of Modern Photography, The	90, 91
School of Practical Photography	110
Shostal Press Agency, The	186
Shull, D. Paul	198
Shutterbug Shop	174
Simeri Mfg. Co., R. A.	175
Slide Supply Service	163
Smith Photo Laboratories	174
Society for Visual Education, Inc.	195
Solar Cine Products, Inc.	130
Southwest Photo Arts Institute	141
Spencer Company, The	15
Spiratone Fine Grain Labs	108, 150, 158, 165, 176
Sterling Films, Inc.	130
Sterling-Howard Corporation	105
Sterovision	183
Strobo Research	132
Studio 35	164
Suffolk Science Service	150
Sun Ray Photo Co., Inc.	182
Superior Bulk Film Co.	120, 128
Suydam & Co., E.	198, 199
Tec Engineering Co.	184
Tells Photo Supply	200
Tiffen Mfg. Corp.	170
Town Fotoshop	160
Transcolor	156
Triumph Mfg. Co.	169
Tru-Color Laboratories	106
U. S. Photographic Equipment	170
Ultrex	130
Union Rubber & Asbestos Co.	187
United Camera Exchange	112, 133
United Camera, Inc.	139
Universal Camera Corporation	11
Universal Photo Service	167
Uticam Photo Enlarger	136
Utilites Photo Products Company	198
Valentino, Inc., Thomas J.	122
Valley Cinema Service	130
Vision Photo Service	122
Walter Labs.	186
WARO Art Photos	200
Weimet Film Co.	99
Westen's	143
Westlake Camera Exchange	157
Weston Electrical Instrument Corporation	97
West View	198
Whitehouse Products Inc.	173
Willoughbys	8
Wilmar Electronics	113
Wilson's	6
Windman Brothers	110
Wolff Mfg. Co.	96
Wolk Camera Co.	92, 185
Wollensak Optical Company	Third Cover
Woodard School of Photography	152
World in Color Productions	163
Yawn School of Photography, Inc.	190
York Photo Mount, Inc.	199
Zeiss, Carl	140
Ziff Davis Publishing Co.	114, 115, 137, 145, 153

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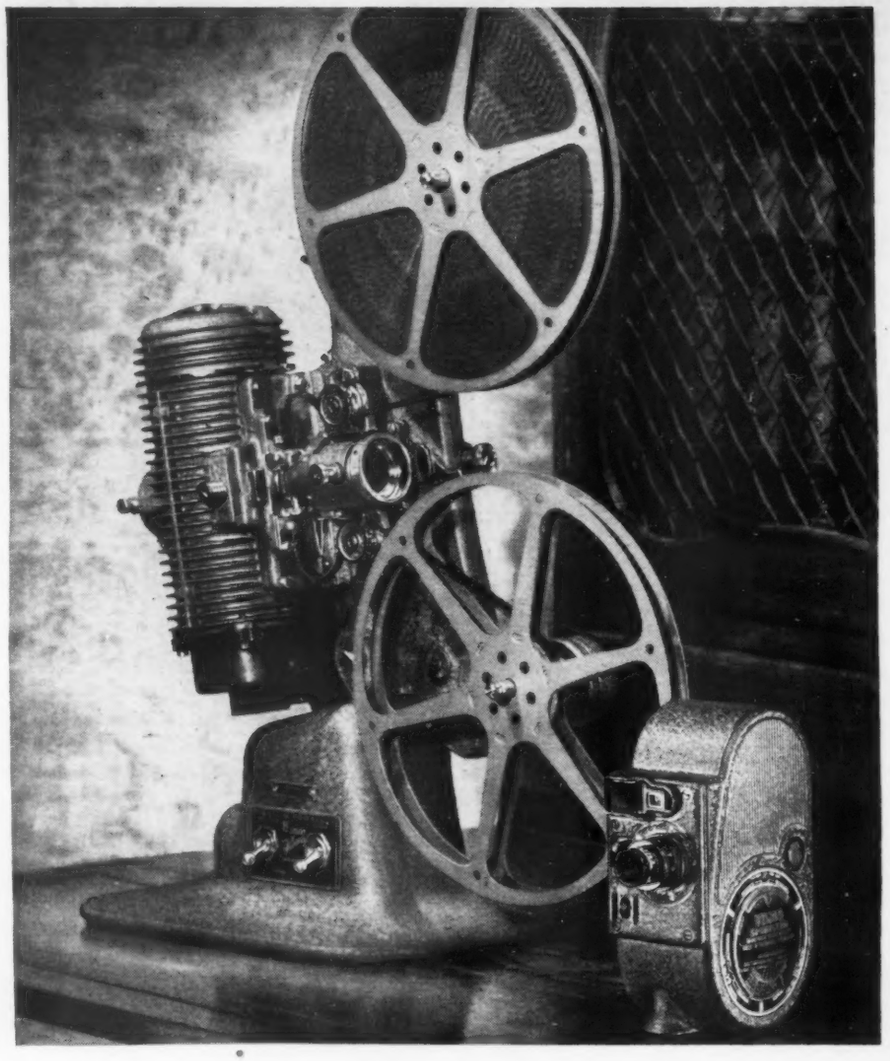


When you project 8mm movies on a screen four feet wide, the picture is nearly 68,000 times the area of the actual film frame!

Any slight departure from identical registration of each film frame will be magnified into annoying jiggling and jumping of the screen pictures.

That's why 8mm movie cameras and projectors must be precision-built. That's why, to enjoy 8mm movies at their finest, you need a Filmo Camera and Projector, built by the makers of Hollywood's preferred professional equipment.

FILMO SPORTSTER CAMERA is a palm-size, 24-ounce jewel of fine design. Easy to load . . . film literally drops into place. Four speeds including slow motion; is equipped for animation work, too. Built-in exposure guide. Superb Filmocoted lens.

FILMO MASTER 400 PROJECTOR has a film movement mechanism matched to that of Filmo 8mm Cameras, for rock-steady screen pictures. Fully gear-driven . . . no chains or belts inside or outside. Brilliant illumination through highly efficient direct optical system. Many other features for lastingly fine performance and easy operation.

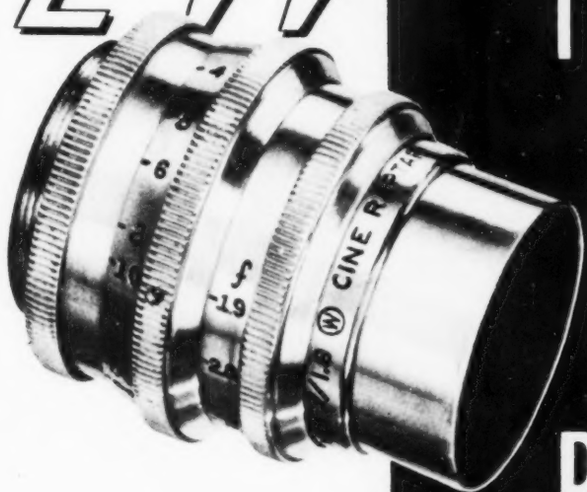
For descriptive literature on B&H 8mm and 16mm equipment and famous Filmosound, see your dealer or write to Bell & Howell Company, 7106 McCormick Road, Chicago 45. Branches in New York, Hollywood, Washington, D. C., and London.

Precision-Made by

Bell & Howell

Since 1907 the Largest Manufacturer of Professional Motion Picture Equipment for Hollywood and the World

NEW



1" f 1.9 CINÉ RAPTAR

FOR 16mm CAMERAS

● If you demand critically sharp movies . . . pure, brilliant color, here's the new Raptar you'll want on your camera to assure better movies this summer. Designed on the new Raptar optical formula, this fast, all-purpose lens possesses greater resolving power for the finest definition in color or black and white. Yes, and colors will be purer, more brilliant because lens surfaces are WOCOTED. Make certain of high uniform lens performance. Standardize on new Raptar lenses.

Wollensak

MEANS FINE LENSES

OPTICAL CO., ROCHESTER 5, N.Y.

Three cameras in one...

Kodak Medalist II

PP-1
DETR
PERIO
5201
DETR
PP-1

One camera to do practically everything—in black-and-white or color . . . many a photographer has dreamed of it, and then found it in his Kodak Medalist Camera . . .

A speedy general-purpose camera with the refinements of a precision miniature . . . a capable press or view camera . . . a precise copying camera—all in one mighty handful . . . all in the practical 2¼ x 3¼ size.

Hand-held . . . you see all settings from above, catch view- and range-finder images in a twin eyepiece, wind film and cock shutter in one operation. Film stops automatically, parallax is corrected . . . nothing to think about except that picture.

Set it on a tripod, focus on hooded ground glass with attached magnifier . . . and your Kodak Medalist II Camera does the clean, exact work of a fine view camera.

For copying, attach it to an enlarger post . . . use copying lights and accessory back as per instructions . . . and pick up every detail and tone in your material.

Any way you use the Kodak Medalist II Camera, you win . . . with an *f* 3.5 Kodak Ektar Lens, *Lumenized* for brilliance . . . a 1/400 Kodak Supermatic Shutter, with built-in synchronization . . . a wide choice of emulsions in rolls, packs, sheets, or plates . . . *At your Kodak dealer's.*
EASTMAN KODAK COMPANY, ROCHESTER 4, N.Y.

. . . as a view camera

. . . as a copying camera

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